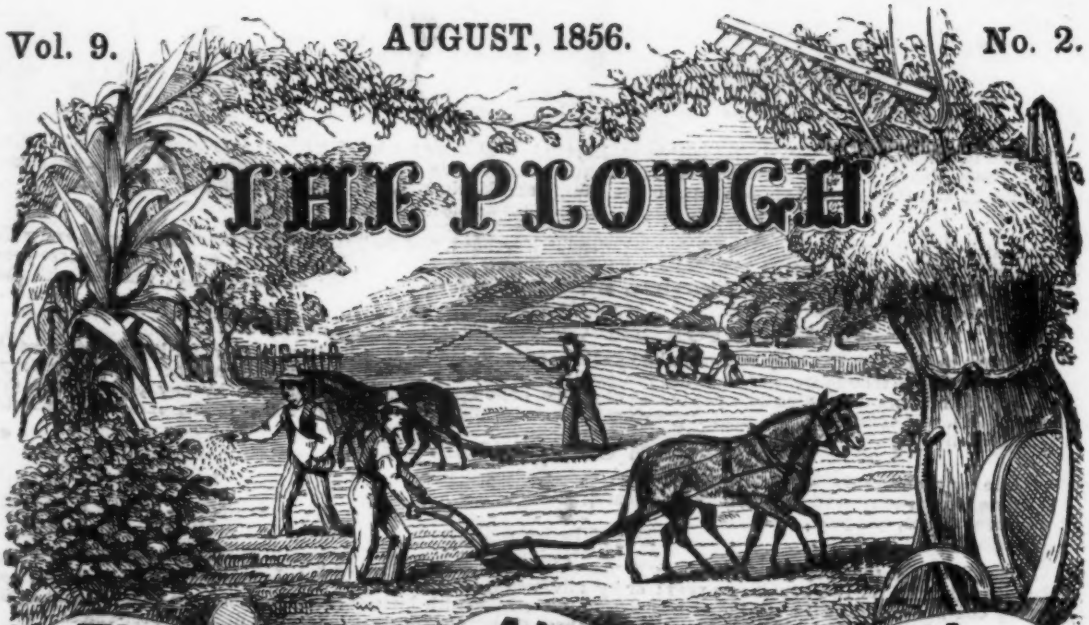
Vol. 9. AUGUST, 1856. No. 2.

THE PLOUGH

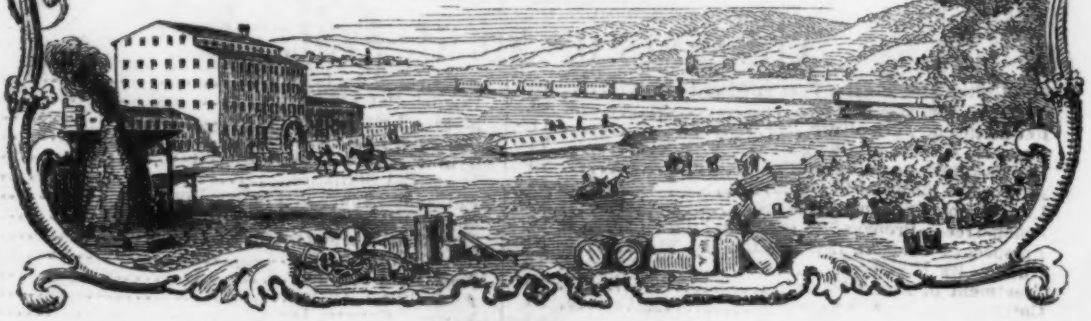


THE LOOM AND THE ANVIL.

DEVOTED TO THE INDUSTRIAL ARTS:

AGRICULTURE, COMMERCE, AND MANUFACTURES.

J. A. NASH & M. P. PARISH, EDITORS.



NEW-YORK:
OFFICE, No. 7 BEEKMAN STREET, CORNER OF NASSAU.
1856.

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Is devoted to Scientific and Practical Agriculture, Horticulture, Fruit-growing, Breeds of Animals, the care of Cattle, Horses, Sheep, Swine, Poultry, Bees, &c ; to Manufactures, the Mechanic Arts, and Improvements in Machinery; and to Commerce and Mining, in their relations to Agriculture and Mechanics. It is pre-eminently

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The conductors of this Journal will be happy to execute any orders for the purchase of Books, Implements, Artificial Manures, Seeds, &c.; also, Music and Musical Instruments. The services of Teachers will also be secured for Schools or Families in any part of the country.

Special attention will be given to the procuring of PATENT RIGHTS for machines or useful inventions.

NEW-YORK, July, 1856.

J. A. NASH,
M. P. PARISH.

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The Plough, the Loom, and the Anvil.

VOL. IX. AUGUST, 1856. No. 2.

Agricultural.

THE UNITED STATES—HER PAST AND HER FUTURE.

THE following is the conclusion of a very able article in De Bow's Review for June, under the above head. We are not quite as *hopeful* as the writer; we wish we were; and we will be, if we can see evidence that our American citizens are generally adopting the obligations and responsibilities of American citizens herein set forth:

Our vast extent, multiplying and diversifying the resources of the country, increases its independence of other countries, augments its power, enlarges the sphere of social improvement and enjoyment, elevates and expands the individual as well as the national mind, and in every way widens the basis of national permanence and progress.

The purposes which the Almighty evidently designs to subserve, through the instrumentality of the American nation, authorizes a confident belief that it is yet destined to a long and increasingly glorious career. Brought into existence just at that period when the world had begun to rise to that intellectual and moral eminence, and to enjoy, through the widening range of commerce and enterprise, guided by science and well regulated intelligence, that extended intercourse between the various portions of the earth which would give to a great and prosperous nation the utmost facilities for impressing itself upon the world; starting with a population uncommonly free from the errors of former and elsewhere prevailing systems, and which has developed, in every step of its career, the elements both of mind and heart most approved of Heaven, and best calculated to supply the demands of human progress; occupying a geographical position with reference to the nations of the earth, which the condition of the rest of the world would naturally indicate as most favorable to adjust its capacities of usefulness to the wants of mankind—the indications are unmistakeable, that the providence of God has marked out for our nation a career of usefulness as broad and as grand as the interests of the world, and whose duration, therefore, must be commensurate with the magnitude of these appointed results.

Here, in this favored land, is to be illustrated in living, actual example, those benign institutions of civil government which give freedom and elevation to man; that system of religion which, coming directly from God, brings the individual man in direct relationship to his Maker; teaches him the whole range of his responsibilities, and invests him with the efficient motives for their successful performance,

and that intellectual emancipation, in which the mind, untrammelled in its aspirations, is urged by all the power of its own spontaneous activity, and the encouragements of enticing reward to every field of inquiry and improvement. The world around us is struggling for freedom from intellectual and physical shackles, that it, too, may enter upon this high and glorious estate. It is not by actual interference that we are to assist in this struggle. It is not physical, but intellectual and moral aid, which the world in the present crisis demands. These are the weapons by which alone advancing nations can secure their preparation for, and successfully assert their claim to, the glorious emancipation we enjoy. It is, then, by our own brilliant example, standing out, as it does, midway the world, and offering conspicuously to the gaze of surrounding nations the glorious exhibition, and the hope of a higher, happier state, that we are to secure to the world the redemption they need, and to usher in the era of happiness to universal man. This, then, is the mission to which Providence has assigned the American nation, and this is the mission which, even now, it is most gloriously fulfilling.

May we not hope that our national existence is destined to a continuance as long as the duration of this field of usefulness; and that its power and glory will ever correspond with the increasing extent and grandeur of the world's susceptibilities of elevation and improvement.

The relative position of the United States to the nations south and west of her, which embrace the largest portion of the inhabitants of the globe, point her out as destined to effect the most important and permanent results in the history of the world. It was in the East that civilization first began. Gradually it has extended itself westward, but always developing itself in each step of its progress in ampler proportions and brighter light, until at last, in noontide splendor, it has displayed itself upon the American continent. But in every case it has been by colonization, and the consequent amalgamation of races, by which the aboriginal race was supplanted, that this western march of an increasing civilization has been realized. The capabilities of improvement in any race are circumscribed by definite limits. And if the regions of South America, of the Pacific Isles, and of the vast continent of Asia, are destined to become the seats of a civilization higher than any now enjoyed, which, as an inference from the general course of its progress hitherto, and the apparent design of Providence, seems quite certain, it must be by the infusion of elements, both of race and of knowledge, the offspring of a people and of a civilization elsewhere existing. The relative position of the United States to these vast regions designates her as the instrument, by which these conditions of this advancing civilization are to be fulfilled. Already has she, by a rapid course of colonization, supplanted the inferior race of her recently acquired Pacific territory, and with one rapid bound extended the western limit of her own noble race and civilization to the very shores of the Pacific. Thus even now is she brought into immediate contact with Mexico, South America, the Isles of the Pacific and even Asia herself. It is not difficult to perceive that a people, so active and enterprising as ours, with all the facilities for immigration and colonization in respect of these regions —which an increasing commerce and a widening international intercourse, promoted by the remarkable improvements, which the modes

of transit of later times will secure, will not be long in spreading in the midst of these regions. But wherever they go, this inferior native population, as the result of amalgamation, and that great law of contact between a higher and a lower race, by which the latter gives place to the former, must be gradually supplanted, and its place occupied by this highest of races.

It is highly probable, therefore, that in the revolution of years the descendants of the American people, still higher elevated in the scale of being, and possessing the vast treasures of a glorious civilization, and the blessings of a saving Christianity, will occupy the entire extent of America, the rich and fertile plains of Asia, together with the intermediate isles of the sea, in fulfilment of the great purpose of heaven, of the ultimate enlightenment of the whole earth and the gradual elevation of man to the dignity and glory of the promised millennial day. Results so far reaching and grand, require for their realization a lapse of time, and an extent and grandeur of means, that bespeak for our country a yet long and glorious career.

A country so abounding in all the elements of permanence and prosperity, so elevated by the dignity and grandeur of the objects to the realization of which it is committed, and yet containing in itself so many of the seeds of decay, must devolve upon its citizens the most high and sacred duties.

In those countries, where the responsibilities of government are confined to certain classes, that part of the population excluded from those classes being without power to impress itself upon the government, may be excused from the duty of familiarizing themselves with its principles and operations. But in our country, where every man may exercise an efficient agency in the machinery of government, and where the entire sovereignty is but the aggregation of the individual sovereigns which compose it, the obligation to study the constitution of the country and the proper mode of its just administration, presses with the utmost sacredness upon every freeman. It is not enough that American citizens should have a mere superficial acquaintance with the general character of the government and the history and interests of parties, such as may be derived from the common newspapers and political speeches of the day; such knowledge both misleads and renders its possessor the more susceptible of delusion by the ambitious. But the constitution itself should be read and studied by every one for himself; its principles, and their mutual relations as a regular system, should be clearly apprehended; and the history of the application and the operation of these principles, as exhibited in the entire history of the administration of the government, should be the object of constant attention and inquiry; so that every man, not depending upon others for direction in his political sentiments and action, should be able to determine for himself intelligently, by reference to the fundamental principles involved, all questions, in the solution of which he as an American citizen is interested. Such a course is necessary to elevate the masses above the delusions of the designing, and to secure to every man those high qualifications of intelligence and statesmanship, which the theory of the government both presupposes and demands. No American should be without a printed copy of the constitution of his country; and, as the great chart of his liberties and immunities, it should be the text-book of his constant reference and study.

That independence of judgment and of conduct, which holds well settled opinions of the constitution and political policy paramount to the interest of party and the claims of men, is the essential quality of true American patriotism. Without it, the individual man is so hampered and restrained, as to be incapable of that enlarged and symmetrical development and progress which our wise and liberal system of government is so well calculated to secure. Without it, our government, instead of being the expression of the people's will, will be in effect but an oligarchy, the instrument of ambition of bold aspirants. Without it, indeed, the constitution itself will cease to be the political directory, and only referred to and used as an auxiliary to power and influence.

An enlightened public spirit, which seeks to make the country prosperous and happy, by the development of its resources and the multiplication of its conveniences and enjoyments, it is the sacred duty of every American citizen to maintain. Such a spirit, thus practically exercised, necessarily promotes the well-being of every citizen directly, and likewise indirectly by that security and permanence which the general support of such interest necessarily secures to the whole nation. Enterprises designed to forward the interests of Christianity, of public education, of commercial and industrial pursuits generally, on a scale of the highest magnificence, embracing the claims of the far-reaching future as well as the wants of the present, should engage the attention and co-operation of every free American.

Finally. Recognizing the existence of a great superintending Providence, which guards and directs the interests of nations, and especially of one so evidently designed to compass the grandest results of usefulness in the world's history as is ours, every American should not only, by an enlightened consultation of the providential bearings of the nation seek to conform his own course of action to them, but, if he be a praying man, should constantly hold the vast interests of the nation before the throne of Divine grace, and secure, by the power of his own personal interest there, the protection and guidance of the Almighty in the onward destiny of our beloved Republic.

Thus, blessed with such glorious elements within, and surrounded by such favorable circumstances without, the hearts of the American people may justly swell with triumphant anticipations of the increasing power, prosperity and usefulness of the nation.

Sowing Turnips.—Do not forget that about the last of July, or forepart of August, is a good time to sow a patch of common turnips. The soil for turnips should be moist, rich and mellow. Ground where corn has failed, or stands too thin, will answer if clear of weeds and well stirred. Or a piece of clean wheat stubble may be ploughed for the purpose; also patches in the garden where peas or early potatoes have been harvested. Turnip seed is plenty and cheap in most stores where seeds are sold. It is best to buy enough at once to resow with, in case dry weather or the fly should destroy the first sowing. The seed, if fresh, will keep good for three or four years.—*Farm Journal.*

CHEMICAL ANALYSIS OF SOILS.

BY DR. JOHN D. EASTER, OF BALTIMORE.

MUCH has been said of the analysis of soils;—whether it is useful, how it should be made, should the farmer be a chemist, and if so to what extent? All these and other questions are better answered in the following by Dr. Easter, than we remember to have seen them otherwhere. The farmer would do well "to acquire a theoretical knowledge of so much of chemistry as relates to his profession," or if his time is too valuable, or if the study is irksome to him, let him see to it that his sons, who are looking forward to the farm, acquire it, but further he should not attempt to go, nor urge them to go:

I propose, in this paper, to consider the true use of chemical analysis of soils, and some of the requisites of a valuable analysis.

As it is from the soil that plants derive the principal part of their constituent elements, the presence in the soil of these elements, in forms in which they may be absorbed by the rootlets of the plants and assimilated in their cells, is indispensable to their perfect growth. Where the want of fertility arises from the absence of one or more of these constituents, or to their being locked up in combinations in which plants cannot use them, chemical analysis is perfectly competent to detect the cause of the evil and point out its remedy.

But the growth of plants is influenced by a multitude of other circumstances to which chemical analysis can furnish no clue. A soil may abound in all the elements of a very fertile one, and yet be perfectly barren. The soil of the great Colorado desert in California, which I have recently analysed, furnishes a good example of this. It possesses in abundance every element necessary to extreme fertility, but is entirely barren from the want of water.

The reverse of this also frequently occurs. The chemist receives a specimen of soil, in the chemical constitution of which he can detect no deficiency, and, in his laboratory, he can assign no cause for its alleged unproductiveness. An examination of the locality probably shows him that it is underlaid by a stiff tenacious subsoil, which retains an excess of water, and no provision has been made for drainage.

The difference in the mechanical texture of stiff and loose soils is familiar to every one. The fertility of many stiff clays may be seriously impaired by ploughing too wet, rendering them tough and impenetrable to the tender rootlets of plants. In this case, as no chemical change takes place, the chemist in his laboratory would seek in vain for the cause of the difficulty.

Every attempt to improve the character of a soil must heretofore be preceded by a judicious consideration of its mechanical texture, its power of absorbing and retaining water, and its capacity for heat. Hence it is important that the agricultural chemist should, if possible, himself examine the locality, in order fully to estimate the wants of the soil. The employment by every State of an agricultural chemist, who should visit in person every part of the State, is therefore strongly to be recommended.

In the next place, it is requisite that an analysis of the soil, in order

to be of much value, should be thorough. It must include separate estimations of the parts soluble in water and in acids, and the insoluble portion. For the portion soluble in water represents what is available for the wants of the growing crop, while the portion soluble in dilute acids, is the index of what may by decomposition become the food of plants. This undecomposed portion of the soil may often, by the application of lime, ashes, and other caustic manures, be more speedily decomposed and rendered available.

The analysis should include also, if possible, the sub-soil as well as the surface soil, in order to guide the farmer in the process of deepening his soil. There are, of late, many advocates of indiscriminate deep ploughing. But a fertile soil may be underlaid by a barren subsoil, by throwing up large quantities of which the fertility of a field may be destroyed for years. The subsoil, not unfrequently, contains large quantities of protoxide of iron and other substances which are not injurious to vegetation until they have been subjected to the action of the atmosphere. On the other hand, the subsoil often contains elements of fertility which are not so abundant in the surface soil, in which case deep ploughing will improve both. It is important that the agriculturist should know these differences, in order that he may know where he should plough deep and where refrain.

A still more important consideration is, that no analysis can be of any value to the farmer who is not himself a chemist; unless it be accompanied by a discussion of the indications it affords, and a recommendation of suitable means of improvement. Our agricultural journals and reports abound in analyses which are about as intelligible to the unscientific farmer as the inscriptions on the pyramids, or a chapter from La Place's *Mechanique Celeste.* Most of our intelligent farmers know, that lime, phosphoric acid, and the alcalies, play important parts in the economy of vegetation, but few of them have any idea how much of these valuable ingredients is requisite to fertility, or what are the best means of supplying their defficiency. Until every farmer is also a chemist, an analysis of a soil or manure which is not followed by a commentary on its defects or virtues, leaves him just where the diagnosis of a disease, without a prescription for its relief, leaves the patient. He is no wiser nor better off than before. It will not do to presume that when the chemist pronounces what a a soil contains, the agriculturist will know what it *ought* to contain, and how to supply its wants. Every farmer should insist upon an interpretation of the analysis furnished him by the chemist.

In conclusion, I would draw your attention to the duty of the intelligent agriculturist to acquire a theoretical knowledge of so much of chemistry as relates to his profession, that he may be enabled to judge for himself of the value of a substance from the chemical analysis of it, and also of the probable value of the analysis itself, for at least one half of the analyses which farmers daily pay for are absolutely unreliable and worthless. The agriculturist should also be able to judge for himself of the texture, moisture and color of the soil, and the means within his reach for modifying them. At the same time, I would by no means advise that he should attempt to become a practical chemist and do his own chemical analysis, as some persons of more zeal than judgment insist he may. I have pointed out the necessity for thoroughness in chemical examinations of the soil, and every one who has had

only a few months' experience in a laboratory knows that a thorough analysis of a soil requires much time, great care and dexterity in manipulation, and a knowledge of all the disturbing influences and sources of error. This few farmers have the time or opportunity to acquire, and few would, for the sake of making the few chemical examinations they might in their lifetime require, be willing to devote to the study time which might be so much better spent in acquiring a practical knowledge of their own noble profession. Besides this, the expense of fitting up a laboratory would more than pay for all the analyses any farmer is likely ever to need. The many formulas which have been proposed for the use of farmers are therefore of very doubtful utility. Let every farmer make a laboratory of his barn-yard, and carefully collect and employ all the liquid as well as solid manures within his reach, and if the chemist is not enriched thereby, his fields will be.—*Transactions U. S. Ag. Society.*

REQUISITES OF AGRICULTURE.

WHAT are they? Chiefly, that the farmer *know* his duty; that, true to himself, he *do* it; and that the Government, recognizing this as the leading interest, should *do* its duty in relation to it. It is our purpose to discuss the question above propounded, often and more fully, as time and opportunities occur. We wish to discuss it with the utmost candor, without the least party bias, and if possible without wounding any man's political views. At present, we have but little to say; and we will be limited to the topics already suggested.

1. That the farmer should *know* his own duty—should be (and should keep himself) *read up*, in all matters pertaining to his calling. If by favor of early education he entered upon his life employment, with a mind well instructed and highly disciplined, he has an advantage which can hardly be estimated. If not, he may, in most cases, do much, by a diligent improvement of leisure hours, to retrieve the early loss. But if his case is peculiar; if he is too busy to inquire, or too old to learn, either of which we suspect is impossible, let him at least rescue his children from the disadvantages under which he himself labors. No one would deny that the merchant, who understands the resources of the country, the state of foreign trade, and the present condition of the markets, possesses important advantages over the one who is ignorant of all these things. But it is not less manifest, that the farmer, who knows how best to preserve the fertilizers of the homestead and to procure others advantageously; how to adapt the manure to the soil and the crop to both the soil and the manure; how to make each manure and each field tell most effectually on the great end of agriculture, possesses equally important advantages over the one who knows less of these matters. That "knowledge is power,"

is as true of agriculture, as of government, of commerce, of mechanics, or any other art. And what use of power is more beneficent than that converting the floating elements of nature—the wind and water and soil, into food and clothing for man. We would not censure the ambition that should strive to possess and to *exert* the greatest possible power in this line.

2. That the farmer, true to his own interest, which is always consonant with the public good, should *act* up to the knowledge he may have been able to acquire. The manufacturer of cotton cloth ascertains that the wastes of his mill are worth something for a lower species of manufacture—something very small, not more perhaps than half a mill on each yard he manufactures. But he estimates that the half mills would amount to $500 on a million yards; and he preserves these; and the saving amounts to a large sum in a lifetime. Many a barn-yard steams away as much value each second of time as that of the waste fibres in the manufacture of a yard of cotton cloth, All farmers know, or have the means of knowing, how to prevent this. The prevention, like the savings of the waste in a cotton mill. would amount to enough in a life-time to make a happy competency for old age. We mention this as one of the smallest savings of the farm. That of a proper distribution of food to animals, of protecting them kindly, of making each dollar's worth of food produce the greatest possible thrift, would be much greater. Others, which we could name, would be greater still; and the difference in the results of slatternly and saving management would become very wide by the end of fifty years. We have said that "knowledge is power" in the business of farming; but in order to avail, it must be carried out in practice, and that in little things as well as large. Indeed, farming consists largely of little things. A thousand little rills will fill a reservoir as soon as one large one; and a thousand little leaks will empty it as soon. To know how to increase productiveness without increase of expense, or how to increase productiveness with somewhat less than a corresponding increase of expense, so as on the whole to enlarge the profit, and then how to expend the products in the manner most favorable to further productions, and to carry this knowledge into the every-day-business of farming, making every new idea gained tell on the results, is what the individual farmer is to strive for; and he has the satisfaction of feeling, that so far as he succeeds, he benefits the public at the same time that he benefits himself, that what he gets is in no sense taken from others, as in the case of a dealer less honest than shrewd, but is actually so much added to the general prosperity. When the farmer has qualified himself as best he can for his calling, and has pursued it earnestly, he has done what he can, *as an individual*, to advance that superlatively important interest, the nation's agriculture.

3. That the Government should perform certain duties for agriculture, which are above and beyond the reach of the farmer in his ndividual capacity. We do not propose to enter upon disputed ter ritory. To foster one interest at the expense of another is the farthest from our wish. But it has seemed to us that the furtherance of agriculture is not the interest of one class, but of all. Who is not interested in the increase of the earth's productions? Is it the poor man, who has every thing to buy, and nothing to buy with? Is it the mechanic, the manufacturer, the merchant, the professional man? It has appeared to us, that, if any one has reasons to dread the effects of a greatly increased production, it is the farmer himself. This may seem a strange idea. But let us look at it. If the produce of our fields were all at once doubled, without a corresponding increase in the home consumption, the farmer would have more work, but no more pay. In proportion as the grain he lugs to his barn increases, the price would decrease. It is true that exportation to foreign countries might afford a little relief, but not much, hardly enough to become appreciable. Every country must and will produce mainly its own bread and meat. The exceptional cases never have offered, nor will they ever, for any considerable length of time, more than the slightest relief for those countries where there is an over-production. That the whole human race is to live out of the soil is hardly more irrevocably settled, than it is that all are to live from the soil that is near them, at least on their own continent. It would be an odd state of things if all the blacksmiths in a State should congregate in one town, all the spinners in another, all the tailors in another, all the shoemakers in another, and all the farmers in a dozen or a score of others, far removed from those pursuing the mechanic arts. The farmers would say, we want the mechanics among us, to do our work, to consume our produce, to pay us for it. They would say, we cannot live without their work, and we cannot live without the privilege of feeding their families. But where were our mechanics eighty years ago, while we were yet under British rule? They were not even in a remote corner of these provinces. They were in Europe. There was our blacksmith, our locksmith, our gunsmith, and nearly all the rest of the smiths and spinners and tailors. The foreign farmer had almost the exclusive privilege of feeding them; and our fathers had the poor privilege of paying for their work as best they could, after the price had been enhanced by sundry profits and transportations. Then it was, and for thirty or forty years afterwards, that farm produce brought next to nothing, and other necessaries were about as high as at present. Many a farmer has given twenty pounds of nice veal for a yard of cotton cloth that would hardly hold together to be brought home; and although the exchange was not quite so unfavorable as

a whole, yet it was far from being fair and equal. The whole tendency was to impoverish the American farmer; and it would be precisely so now if we were as dependent on the foreign manufacturer as our fathers were. But are we not dependent to a far greater extent than is for our interest? Are not too many of those who do our handy work yet on a foreign soil? Are they not fed by the foreign farmer? Should they not come among us? To import industry is to increase wealth. Look for instance at the men, who make the vast amounts of iron consumed among us. Why should the iron ore of Missouri, piled mountain high, instead of having to be lifted from the bowels of the earth, the best yet discovered, and enough for the whole world, be neglected for inferior qualities from abroad? Why should not the coal of Pennsylvania, laid up for us in inexhaustible quantity, be used for manufacturing it? And why should not American laborers—those who are so by birth or by choice—perform the labor? It is labor that makes a country great and prosperous. The importation of laboring men enriches; the importation of the results of labor performed abroad impoverishes. Our resources are vast. Their development will injure no other country; it will benefit ours. If the single article of iron could be manufactured among us to the extent of our wants, the influence would be incalculable, and no class would feel it beneficially sooner than the farmer. Let it not be inferred from anything we have said that we are advocates of a high tariff. We advocate no such thing. But we should be unworthy of the name *Plough, Loom and Anvil*, if we did not earnestly desire such encouragement to all the industrial arts, as will at once reward the mechanic and the farmer, and hasten the development of our agricultural, mineral and other resources.

THE COST AND MANNER OF USING GUANO IN AREQUIPA.

UNDER date, Arequipa, March 20th, 1856, Mr. Thomas Reuncy writes to a friend, asking for information relative to the manner of using guano in that district, as follows:

Guano brought from Chincha Islands to Islay is there sold to the chacreros (farmers) round Arequipa at from 4 to 6 reals the fanega; the fanega weighs five arrobas, or about 125 lbs. The price varies from 4 to 6 reals; at present the latter price is asked. This would make the English ton worth about $13, or say £2 10s. in Islay.

It is applied to two crops only, maize (Indian corn) and potatoes, carefully by the hand. To maize, when the plant is about two months old and about three-fourths vara high, one-half handful is applied near each root. A large quantity is said to be prejudicial, by "burning the

plant." The guano is then covered with earth, and a small quantity of water (by irrigation) is applied "to fix the guano." If the state of the soil does not absolutely require it, no more water is applied until after six or eight days.

The quantity required for each "topo" of 500 varas (about 1½ acres) is four fanegas, or say 500 lbs. For potatoes the quantity required is the same, and is applied much in the same manner as regards the age of the plant, and a small quantity of water "to fix the guano." The stalk of the potato is then about one-fourth vara in height, and the earth heaped up in ridges the same as in Britain. A person inserts a spade in the top of the ridge beside each plant, whilst a woman follows pouring about half a handful of guano into the hole thus made and covering it with earth, so that the ridge remains the same as before the application of the guano.

To wheat the application of guano is not approved, principally, we believe, on account of the rankness it produces in the stalk, thereby delaying the ripening of the grain—a point of great importance in lands where they count on obtaining two crops a year.—*Hunt's Merchants' Magazine.*

INSECTS INJURIOUS TO VEGETATION.

LEPIDOPTERA CONCLUDED.

We resume our exhibition of these destructive insects, commencing with the group called

Tinaæ. This term was originally used in a limited sense, designating certain well-known destroyers of clothing and other household stuffs. It was so applied by Linnæus and other English entomologists, because they gnaw holes or winding paths in the material upon which they live. The word comes from the Gothic *Maten*, to gnaw.

There are many destructive insects, infesting houses, granaries, stores, &c., belonging to this group, which are designated by the peculiar habits of each species. In the winged state, the Tineans have four short and slender feelers, a thick tuft on the forehead, and very narrow wings, which are deeply fringed. They deposit their eggs in the spring, and very soon die. The eggs are hatched in fifteen days, and the little whitish caterpillars or moth worms immediately begin to gnaw whatever is within their reach, covering themselves with the fragments, which they form into hollow rolls and line with silk. Within these rolls they pass the summer, carrying them about on their backs, or fastening them to the substance which they devour. In the autumn they cease eating, fasten their habitations, remain quiet, and perhaps torpid through the winter, change to chrysalids within their cases in the spring, and in about twenty days are transformed to winged moths, come forth, fly about in the evening till they have paired and are ready to lay their eggs. Then they slip through cracks

into closets, chests, and drawers, or under carpets, or in the folds of curtains or garments, and the like, and prepare for a new colony.

The grain moth of this country is probably identical with the *Anacampsis Cerealella* or the Angoumois Moth of Europe. It is a four winged insect, about three-eighths of an inch in length. It has two tapering curved feelers, turned over its head. Upper wings narrow, light brown, without spots, and with a lustre of satin. They cover the body horizontally above, but droop at the sides. The lower wings are ash-colored. It lays its eggs, sixty to ninety in number, in clusters, on the ears of wheat, rye and barley, usually while the ears are young and tender, but sometimes when the grain is stored. The spring brood produces a brood in the autumn. The caterpillar is not more than one-fifth of an inch long, white, head brownish. It has six small jointed legs, and ten very small wart-like prop legs. Duhamel describes it as having two little horns just behind the head, and two short bristles at the end of its tapering body. It eats the heart of the grain, and undergoes its transformations within the cavity thus formed.

Its ravages may be checked by drying the damaged grain in a hot oven or kiln. A heat of 167 degrees Fahrenheit, continued for twelve hours, effectually destroys them.

A pernicious insect known as the Bee Moth seems to have been well known to the ancients, and is described in the 4th Georgic of Virgil, line 246.

"Aut dirum *tinæ* genus," &c.

Fabricius gives this moth the name *Galleria Cereana*, or the *Wax Galleria*, the name being suggested from its eating wax. It was probably imported in hives from Europe. It is a winged moth or miller, from five-eighths to three-fourths of an inch in length, its wings expanding nearly an inch and a half. Its feelers are two, tongue short, the fore wings shut together flatly on the top of the back, slope steeply at the sides, and are turned up at the end like the tail of a fowl. The male is a dusty gray color, his fore wings glossy, and streaked with purple-brown on the outer edge, with a few dark brown spots near the inner margin, and scolloped inwardly at the end. His hind wings are light yellowish gray, with whitish fringes. The female is larger and darker colored, her fore wings longer, not so deeply notched, the purple brown tinge and dark spots are more abundant, and the hind wings are dirty or grayish white. The first brood comes out in April, and a second in August. By day they remain quiet, and in the evening, when the bees are at rest, take wing, enter the hive, and lay their eggs. Sometimes, if an entrance is not found, they lay their eggs in chinks on the platform or other secure place about the hive, and the caterpillar, scarcely larger than a thread, enters the hive, and

devours the wax, passing through the cells in all directions, breaking them down and destroying them. They are most numerous in the upper part of the hives. As soon as they are hatched they prepare a silken tube, in which it moves at pleasure. As they increase in size they enlarge their shield. In the night, when the bees are quiet, they partly free themselves from this retreat, and devour the wax. The bees are at length obliged to abandon their hive and their young, leaving their enemies in full possession. These caterpillars grow to the length of an inch or more, coming to their full size in about three weeks. They then spin cocoons, of an oblong oval shape, and are changed to chrysalids of a light brown color, rough on the back, with an elevated dark brown line upon it from one end to the other. These insects are most destructive in hot, dry summers.

The only remedy for these pests, when they have once entered a hive, is frequently to examine them, and to destroy all the webs and cocoons to be found. Numbers may also be caught by giving them a sweet syrup in a shallow vessel. They are very fond of this, and will get into it, and are thus drowned. Great numbers are often caught in this way. But a still better security is found in a properly-constructed hive, or one so arranged as to forbid the moth from finding any secure place for the deposit of her eggs, and the young caterpillar from finding a ready entrance into the hive. Hives, contrived to secure this end, have been described in this journal. We consider the most successful to be that of Dr. Eddy, the account of which, with illustrations, may be found on the 356th and 357th pages of the seventh volume. There may be others, unknown to us, of still greater merit. If so, we shall be happy to make them known to our numerous readers.

A WORD TO FARMERS' BOYS.

We all have to be boys before we can be men; and although it is not left to our choice *where* our boyish days shall be spent, whether in city or country, yet *how* they shall be spent depends partly at least upon ourselves. Both the where and the how are important to our success and usefulness in life, but the latter is by far the most important. To illustrate our meaning, we copy from *Fowler's Sketches of Living American Preachers*, an exceedingly interesting and instructive work, just published by Fairchild & Co., 109 Nassau street, N. Y. Of the early life of Dr. Baird, Mr. Fowler says:

"Robert was a farmer's boy. His early days were spent like those of all farmers' boys. He ploughed and hoed, and did 'the chores,' and during the winter months trudged to the village school, working

as faithfully at geography and arithmetic, as in summer on furrow and sod. And is it not a fact worthy of attention that such a large proportion of our great men are reared on soildom? A natural connection exists between such a training and future usefulness. We will find that many of those who are now the working men of the age—the effective philanthropists, the devoted patriots, the guiding statesmen—have had their early training in connection with the farm."

Now, here is a thought for the boys, who help on with the farm work in summer, and go to school in winter. We could speak just as encouragingly for the girls who grow up on the farm, and perhaps may at another time—but our object now is with the farmers' boys. Let them consider, what is unquestionably true in our past history, and probably will be of our future, that the farm is the best place in the world to produce full-grown men. The alternation of out-of-door work with study, which so much obtains with farmers' sons, is the best training in the world to mature a sound body and a harmoniously active mind. The farm, of course, makes nearly all the distinguished farmers. It is not so much a matter of course, but it is yet true, that a large portion of the eminent mechanics, manufacturers and merchants are raised on the farm. And so it is with our more public men. If we had a bright boy that we hoped to make a Robert Peel of, or a Daniel Webster, a Gardner Spring, or a Robert Baird, we should want him to work on the farm summers, and attend school winters, through at least the first half of his teens.

But the boys should understand that it is not merely being born and growing on a farm that makes great men. Without some fixed purpose, some effort of their own, the farm will not make them good farmers; nor will it fit them to excel in other employments. Of the individual who is the subject of the above extract, the writer of his life remarks: "Robert Baird manifested at the outset of life an unusual fondness for reading. . . . . He also evinced in early life a remarkable memory. He garnered up the fruits of his reading." Here was the secret of his success. Providence did him a kindness in putting him on a farm; but for all that, he might have lived and gone through life without learning much, and without even acquiring the faculty of expressing what he had learned in fitting language. He made himself, and that by just such efforts of reading, reviewing, and studying, till he could remember what he read, as every boy can undertake, if he will, with a pretty good prospect of success. It is from the farmers' sons, now in their teens, that most of the distinguished men of twenty-five years hence are to come. They are to furnish the wealthy farmers, the mechanics that know how to *think* as well as *work*, the enterprising merchants, the leading men of their

age in all departments of useful and honorable life. But which of them are to become eminently useful and honored, will depend very much on themselves. Those who do not *try* will certainly fall short. Those who *try* may succeed. What say the boys to *trying?*

LONG-WOOLED SHEEP FOR MUTTON.

Messrs. Editors—In my former articles in the *Country Gentleman*, I gave the result of an experiment in regard to the comparative consuming qualities of the New Oxfordshire and Merino sheep; also a cheap and easy method of obtaining a good flock of mutton sheep, by crossing the long or middle wooled on the Merino or common sheep of the country. The success which has attended the introduction of the New Oxford sheep among the farmers in this vicinity, as well as the satisfactory result attending the crossing them with our merino stock, induce me to give your readers some facts and observations which may prove both profitable and interesting. In giving an account of the habits and qualities of these sheep, I have always endeavored to deal fairly, both with them and the public, preferring to give facts drawn from experience, rather than theories without a foundation on which to base them.

Through the medium of the agricultural press, I hope many of our New England farmers will be persuaded to cultivate a good breed of mutton sheep, feeling confident that it is better business than to depend merely on the fleece for profit. For three years past I have furnished one of my neighbors with a buck to make a cross on his Merino ewes. The following is the loss and gain attending the first cross. As near as could be judged by the weight and sale of the first clip of wool, the value was diminished twenty cents to the fleece. The average weight of the sheep in the fall, after they were one year old, was 87 lbs., making the whole flock, both ewes and wethers, equal in weight and flesh to his best lot of full-grown Merino wethers, besides a gain of over two dollars a head on the value of the sheep. They are, except in fleece, every way more desirable, and excel, for profit, our best Merinos. The lambs are raised with less care and expense; they are more quiet, better breeders, good nurses, and when raised are such sheep as find a ready sale.

In the fall of 1853 I sold my brother one old ewe weighing 130 lbs., and a small ewe lamb weighing 62 lbs. The next year he received from the flock of John T. Andrew, Esq., West Cornwall, Ct., another ewe which weighed 128 lbs. These two ewes have been fed some kind of grain from the time they dropped their lambs, about the middle of March, until they were turned to grass. With this exception, these sheep both old and young, were kept for two years strictly on hay and grass. At the end of two years the old ewe weighed 188 lbs; the lamb, now two years and nine months old, 192 lbs., and the second ewe bought, 164 lbs., making a gain of 224 lbs., or what would be equal to 45 lbs. on one sheep for a year. The two old sheep in the time raised four lambs, whose average weight at seven months was 94 lbs.,

making 376 lbs. The average weight of their fleeces was a little over 7 lbs. We find the loss on this wool in scouring it for the carding machine to be 29 per cent., which deducted from its present weight leaves a fraction over 5 lbs. to the fleece, of well scoured wool.

The income on these sheep, valuing the wool at 30 cents per pound, the gain on the ewes, and the weight of the lambs at 6 cents a pound, a price the butchers paid at that time for extra fat Merino sheep, would be $46.50, or $9.30 for the keeping of one ewe a single year, and the summer keep of her lamb.

The following notice of a sheep broker's sale, which I find in a February number of the New-York *Tribune*, shows the value of these sheep when fatted for the market:

"The greatest sale this winter, was made by Richard H. Sherman, at Allerton's, of three long-wooled sheep for $22 each. They were fatted by Ab. Burton of Dutchess county, and weighed 200 lbs. each, live weight. These are the right kind of sheep for profit to the feeder and consumer, though too fat to suit the common taste for lean meat."

It requires no extra effort to bring a good New-Oxfordshire sheep to the weights here mentioned at two and a half or three years old. The lamb I sold my brother, at two years and nine months old, came within eight pounds and the old ewe within twelve pounds of the two hundred, with but very little besides good hay and grass, and within the time raised two lambs, which together weighed over two hundred pounds more. Four ewes of this flock, being all that were old enough, have borne seven lambs this season. The largest is now three months old, and weighs 70 pounds.

Since I commenced breeding these sheep, they have lacked but one of bearing three lambs for every two ewes. The average weight of my entire flock of last year's lambs was 82 lbs. on the 17th day of September. At that time I commenced selling. I should judge by the weight of some I sold about the first of December, that they would have averaged 90 lbs. if they had been kept until that time. LAWRENCE SMITH, West Worthington, Mass.—*Country Gentleman.*

FOR THE PLOUGH, THE LOOM, AND THE ANVIL.

PEACH TREES—PROPAGATION OF FRUIT TREES.

MR. EDITOR:—In our Southern latitude the peach, a most delicious fruit, seems adapted to the soil and climate. However, the peach is difficult to graft, and by the seed propagation is depended on. Numerous important discoveries have been made accidentally—witness that of the manufacture of glass. I have lately made the discovery that if the small twigs of a peach tree—such as ought to be pruned off in the spring—are buried in the ground in a horizontal position, with three or four inches of the twig left out, it will sprout and grow in advance of anything that comes up from the seed. Another way to propagate the peach before it can bear fruit is to bend down the

sprouts that are apt to come up from the root of a young tree, and cover them for a foot or so with earth well pressed down. The sprouts thus covered will take root, and the next spring may be planted out like young trees. Thus numerous trees may be got from a favorite one before it is of age to bear fruit.

We hear ideas advanced as truisms, and seldom take the trouble to test their value. It has been said that, unless the fruit was ripe, a peach tree that came up from the seed would never bear good fruit. Accidentally, again, I have discovered that if a tree becomes diseased while it is loaded with fruit, the kernel will seemingly try to mature, and be able to sprout and make a tree. The high water of '44 killed a peach tree in Madison Parish, La. Next spring, though the peaches did not appear to be more than half grown when they dropped from the trees, they came up, and in a few years produced choice fruit. Pumpkins, watermelons, and mustard, that were drowned by the high water, produced good seed. If nature cannot mature the fruit, she seems to be careful that the seed shall not be lost.

SALMAGUNDI, La., May 10, 1856. W. M. D.

FOR THE PLOUGH, THE LOOM, AND THE ANVIL.

PROSPECT OF CROPS IN LAMOILLE CO., VT.

MESSRS. EDITORS:—I am reminded I ought to send you a short notice of the prospects of the farmer, in whose prosperity we all have an interest. For our bread to them we must look.

The weather so far this season has been very versatile, varying between extremes of cold and heat; on the 24th of June and 7th of July there was frost in many locations. The mercury stood—

	Sunrise.	Noon.		Sunrise.	Noon.
May 13th	30°	—	June 21st*	63°	88°
" 14th	39	78°	" 24th	38	80
" 17th	30	80	" 29th†	76	100
June 12th	48	88	July 7th	34	80
" 18th	42	86	" 14th‡	56	86

* At 4 P. M. 90°. † At 2 P. M. 102°. ‡ At 3½ P. M. 92°.

The hottest day for the last twenty years was the 6th of September, 1844, when the mercury at 12 M. stood at 104, at 2 P. M. at 106. There can be no mistake, for on rating my thermometer at noon at 104° Rev. Zadock Thompson was at my house, having a thermometer, which he hung at the side of mine, and *that* soon rose to 104, and both to 106 before 2 o'clock. At 4 o'clock there was a tornado with rain, that prostrated buildings, forests and much fence.

The season has been rather dry, and much cold north-west wind, then in the south; the change of temperature so sudden, that a change in apparel twice in one day is frequently requisite. Notwithstanding, the crops look promising, except hops. There is an abundant crop of grass; corn stands well, stalks are large, tassels appeared on the 3d of July. The cool nights are favorable to grains, which look well. The hop is attacked by an insect; the leaves are shrunk and curled up. The vines in nearly half the yards are up the poles about three feet, with very few blossoms. Such yards have not been hoed, and will not pay for gathering. On the whole, the prospect of the farmer is flattering.

Hyde Park, Vt., July 16, 1856. ARIEL HUNTER.

GUANO—ITS HISTORY.

GUANO, as most people understand, is imported from the Islands of the Pacific—mostly of the Chincha group off the coast of Peru, and under the dominion of that Government.

Its sale is made a monopoly, and the avails, to a great extent, go to pay the British holders of Peruvian Government bonds, giving them, to all intents and purposes, a lien upon the profits of a treasure intrinsically more valuable than the gold mines of California. There are deposits of this unsurpassed fertilizer in some places to the depth of sixty or seventy feet, and over large extents of surface. The guano fields are generally conceded to be the excrements of aquatic fowls which live and nestle in great numbers around the islands. They seem designed by nature to rescue, at least in part, that untold amount of fertilizing material which every river and brooklet is rolling into the sea. The wash of alluvial soils, the floating refuse of the field and forest, and, above all, the wasted materials of great cities, are constantly being carried by the tidal currents out to sea. These, to a certain extent at least, go to nourish, directly or indirectly, submarine vegetable and animal life, which in turn goes to feed the birds whose excrements at our day are brought away by the shipload from the Chincha Islands.

The bird is a beautifully-arranged chemical laboratory, fitted up to perform a single operation, viz: to take the fish as food, burn out the carbon by means of its respiratory functions, and deposit the remainder in the shape of an incomparable fertilizer. But how many ages have these depositions of seventy feet in thickness been accumulating!

There are at the present day countless numbers of the birds resting upon the islands at night; but, according to Baron Humboldt, the excrements of the birds for the space of three centuries, would not form a stratum over one-third of an inch in thickness. By an easy mathematical calculation, it will be seen that at this rate of deposition, it would take seven thousand five hundred and sixty centuries, or seven hundred and fifty-six thousand years, to form the deepest guano bed! Such a calculation carries us back well on towards a former

geological period, and proves one, and perhaps both, of two things—first, that in past ages an infinitely greater number of these birds hovered over the islands; and secondly, that the material world existed at a period long anterior to its fitness as the abode of man. The length of man's existence is infinitesimal, compared with such a cycle of years; and the facts recorded on every leaf of the material universe ought, if it does not, to teach us humility. That a little bird, whose individual existence is as nothing, should, in its united action, produce the means of bringing back to an active fertility whole provinces of waste and barren lands, is one of a thousand facts to show how apparently insignificant agencies in the economy of nature produce momentous results.—*London Farmers' Magazine.*

TREATMENT OF BROOD MARES.

A COMMON cause of accidents to mares in foal is improper working. This may arise from carting, going in the threshing mill, or ploughing of hard headlands, or stiff soils, or harrowing land where the horses' feet dip, producing over fatigue or heating of the system. Mares, for at least three months previous to foaling, should not be carted or worked in a threshing machine, or called to perform any labor involving any shaking or straining of the body. Nor should they be pushed beyond the space they are inclined to step at when performing even light work. Ploughing, from the draught being steady and the labor not exciting, is the most suitable. At this kind of work mares may be continued up to the time of foaling, and without injury, provided they are gently treated, and regularly fed and wrought. During wet days or even showers, they should not be exposed. If they get wet, they should be rubbed dry, and a warm mash allowed upon returning to the house.

For at least one month prior to the expected period of foaling, the mare should be placed in a loose box. This may be formed in the end of an open cattle shed, provided it is made comfortable by boards or straw kept in position by strong bars and common fence railing. The general absence of a loose house on the majority of farms renders such temporary erections often necessary. The mare should be loose, not tied to anything, and all harness, etc., removed during the night to prevent accidents from cleeks.

If the mare is turned out to a park, previous to or after foaling, it should be to one free of all places dangerous to the foal. Old quarries, deep ponds, ditches or water holes of any kind are dangerous, even if the foal is some weeks old, but more particularly during the first few days after it begins to move about. Nothing is more painful to the feelings of the owner than the loss of a promising foal by accidents arising from causes which might have been prevented. If no suitable park or paddock is convenient for the mare and foal, an out-house, or still better, an open shed, should be set apart for the mare and foal. Many superior horses have been reared in this manner, which have never been depastured at all.

After the mare shows indications that parturition is at hand, she

should be watched, but not disturbed. The most reliable indication is, that at the point of the teats there will be observed a waxy exudation. Sometimes the milk will drop from the teats a day previous to foaling, but generally the gummy exudation is the only symptom. When this appears, foaling will usually take place within forty-eight hours. The mare is seldom long in labor, and the foal is generally dropped when no one is present. The mare should be disturbed as little as possible. Nature usually, when left to itself, overcomes any difficulty. Occasionally, however, the foal bed requires to be broken, to allow the foal to breathe. The foal, if strong, will gain the use of its limbs within two to five hours of being dropped. It readily finds its way to the milk vessel. Sometimes, however, this is so tight that it does not readily catch the teats. The dam occasionally, from a n over-excitability, prevents the foal from sucking. In such cases, the foal should be assisted by drawing a little milk out of the udder, and kept in position to suck; and, if essentially requisite, a halter may be put upon the mare to keep her steady for the first and perhaps the second time the foal sucks. If there is a scarcity of milk, the mare should receive bran mashes, boiled linseed, hay, etc., anything indeed to increase the flow of milk. If this cannot be effected, the foal may be reared on cow-milk. Two of the best horses we ever reared were so nursed. Both of these horses, as regards condition and form, were superior. One Clydesdale, entire, was purchased for Ireland, where he obtained several premiums and was a source of great profit to his owners.

As to treatment, we again repeat, the mare should be disturbed as little as possible, and persons with whom she is not familiar should not go near her for the first few days, as the foal is sometimes injured from the state of excitability in which the mare is for several days after foaling, besides sometimes dangerous to strangers going near her. From the ninth to the twelfth day the mare should be stinted, and, if possible, the same horse as the sire of the foal should be used.

The food of the mare foaling should be soft, to increase the lactic secretion; and, in the absence of green food, which is by far the best, such as is usually given to farm horses, with an allowance of carrot, turnip and hay, with at least two half-feeds of dry corn daily till abundance of green food is obtained. The change from the dry to soft food should be gradual. We may further state, that it is advisable not to put the mare upon grass previous to foaling, as we have known cases where injury arose from this cause.—*North British Agriculturist.*

CUTTING GRASS AND CURING HAY.

Timothy should never be cut until after the seed is formed, and then between the milk and dough state. Orchard grass, however, is so much more tender when cut in the flower, and is therefore so much preferred by cattle when so cut, that it should not be permitted to ripen into seed before cutting; it does so, however, to a great extent after cutting, and contains much more nutriment than timothy.

Many farmers do not consider the scorching effects of our June and

July sun, and the consequence is, that hay is too much dried in this country. Unless the grass be very thick and heavy, it will generally cure sufficiently when exposed in the swath for two days. When shook or stirred out, it should not remain in this condition beyond the first day, or it will thus lose much of its nutritive juices, nor should dew or rain be permitted to fall upon it, unless in cocks. It is better, partially drying, to expose it for three or four days in this way, and as soon as properly cured, place it under cover. It is a good practice to salt hay when put up, and it is thus secured against damage from occasional greenness; and there is no waste of the salt, as it serves the double object, after curing the hay, of furnishing salt to the cattle and manure heap.

Clover should be cut after having fully blossomed and assumed a brownish hue. By close cutting more forage is secured, and the clover afterwards springs up more readily and evenly. The swath, unless very heavy, ought never to be stirred open, but allowed to wilt on the top. It may then be turned over, and when thus partially cured, placed in high, slender cocks, and remain till sufficiently dry to remove into the barn. Clover may be housed in a much greener state, by spreading evenly over it in the mow from ten to twenty quarts of salt. Some add a bushel, but this is more than is necessary for the clover, or judicious for the stock consuming it, as the purgative effects of too much salt induce a wasteful consumption of the forage. A mixture of alternate layers of dry straw with the clover, by absorbing its juices, answer the same purpose, while it materially improves the flavor of the straw for fodder.— *Working Farmer.*

A WORD ON THE FARM WORK FOR AUGUST.

The haying and summer-harvest are now supposed to be over; the hoe crops to have received what attention they require till the time for gathering them in; and the farm hands to have rested a little from the severity of the previous month's labor. If all this is so, now, before the fall work presses, is a good time to collect material for bedding and for absorbents to be used in the stalls and yards during the coming winter. Salt-hay and water-grass in pastures are useful for these purposes. If thrown out on pleasant days, cattle will consume the larger part, and the balance will furnish bedding. It is a mistake to suppose that late cut, coarse marsh hay is worth nothing except as litter. If you were to undertake the wintering of stock on such alone, it might avail nothing, and if the animals you should attempt so to winter were highly valuable, it might prove worse than nothing, for they might be of less value in the spring than in the previous autumn. We do not believe in starving animals through the winter, nor in giving them so poor feed, that they will starve within an ace sooner than eat it. Yet a limited portion of inferior hay, with much

that is good, may be made of great service in wintering a mixed stock, provided that the inferior will be given only at intervals; as for instance, to give it at noon to cattle that are fed scantily on first quality hay morning and evening; or if the inferior be given at many successive feedings, that an allowance of corn meal, oil-cake or succulent roots be given at the same time, regard being had both to the quantity and quality of the food *as a whole.* That is, if your hay be of the very best quality, but you cannot afford as much as the animal would eat, it is advantageous to make up in quantity by an inferior quality of feed in part; or if your hay be very poor, late cut, innutricious, but you have a great abundance, then it is for your interest to procure richer food to be interspersed with it, in order to bring up the quality of the feed as a whole to the thrift-producing point. We have seen farmers who would secure better results in the wintering of stock-cattle from five tons of good hay and one ton of very poor, or a ton of rye straw even, than others would from six tons, all good. Hence we say, that poor hay has considerable value in the hands of the farmer who understands how to use it rightly; and we believe that the straw, the corn-stalks and the very worst of hay should be mostly consumed by stock cattle, and might be thus converted into manure with considerable profit, if the animals were treated each day to a portion of very nutritious food, as corn meal, or oil cake, or even to a plenty of roots. We would therefore recommend the gathering of hay of an inferior quality, partly as food and partly as bedding. But our object at this time is to suggest the collecting of swamp muck, mould from the border of woods, or anything at command of a like nature, to be used as an absorbent of the liquids in the yards and stalls during winter. By collecting such matters at this season, exposing them a while to the sun and air, and then carrying them under cover in as dry a state as possible, and using them as absorbents, the manure of a farm may be just about doubled in value, and at an expense for labor less than the increase of value, so as to give a profit on the labor as compared with that on money expended for manures. Not that we would discourage the purchase of manures; but we would commend the home sources of fertility first. We believe that in very many cases, the expenditure of money for labor, to be employed in gathering the fertilizing substances at hand, would go farther in enriching the farm, than so much sent off for the purchase directly of fertilizers.—Eds. P. L. and A.

Old Izaak Walton said, "Doubtless our Heavenly Father might have made a better fruit than the strawberry, but, certes, *he never did.*"

ALL SORTS OF PARAGRAPHS.

THE first cargo of wheat ever brought to Buffalo was landed in 1838, only 18 years ago. The commerce of that port in grain in 1855 was 25,000,000 bushels, implying an average growth of 1,388,888 bushels a year.——Mr. Robert Chisholm, of Beaufort, S. C., has been engaged in the cultivation of the olive since 1833, and has succeeded in making oil from the olive, but does not think it remunerative, and therefore confines himself to the pickling of the fruit, making better pickled olives, in the estimation of good judges, than those imported from France.——In Boston, 100 years ago, idleness had increased, on account of the then recent wars, to an extent that alarmed the good people of that city. A society was formed for the promotion of industry. At one of its anniversaries, 300 ladies brought their spinning wheels upon the Common, and gave the spectators a sample of their skill in working them. This is believed to have been the first exhibition of American industry. It was teaching the loafers by example; and we suppose it proved effective; for the Bostonians have since been, and still are, an amazingly industrious people.——The fourth annual exhibition of the U. S. Agricultural Society, to come off at Philadelphia, October 7th-11th, will not fail to be a splendid affair. The city of brotherly love is able to do up things rightly; and with the last year's example of Boston before her eyes, will not be delinquent; and all know that whatever responsibilities rest upon the worthy President, Hon. Marshall P. Hilder, will be effectively sustained.

CONNECTICUT SOAP STONE.—A company, with a capital of $25,000 has been formed for the purpose of working the soap stone quarries two or three miles west of Welcottville.

HOW TO PRODUCE LARGE FRUIT.—A correspondent of the *Gardener's Gazette* says, by a very simple and easy process, fruits of many kinds may be raised about one-third larger than is usually the case, and of greatly improved quality. The secret consists in supporting the fruits so that they shall not be allowed to hang the whole weight upon the stalk, or twist about in the wind. The *Gazette* states that when the fruit is allowed to hang naturally upon the stalk, the increasing weight strains the stem or twig, and thus lessens the quantity of nutritious food flowing to the fruit. The fruit may be supported either by tying it to a branch with a piece of matting or by inclosing it in a small net. Flowers, such as dahlias or peonies, may also be rendered much larger by the adoption of this system.

The Rochester *Union* says the weevil is making sad havoc in the wheat fields in Western New-York.

It's the little troubles that wear the heart out. An elephant which would face an army of men with handspikes, makes an inglorious retreat before a swarm of gallinippers.

Cheerfulness is a moral armor. It protects the mind from the javelins of dyspepsia, and makes it as impregnable to the assaults of duns and unliquidated due-bills as Gibraltar is to popguns.

That man only is truly brave who fears nothing so much as committing a mean action, and undauntedly fulfils his duty, whatever be the dangers which impede his way.

The *Maine Farmer* has some excellent ideas on economy. It says: "It is no man's duty to deny himself of every amusement, every luxury, every recreation, every comfort, that he may get rich. But there is yet an economy, which is every man's duty, and which is especially commendable in the man who struggles with poverty—an economy which is consistent with happiness, and which must be practised if the poor man would secure his independence. It is every man's privilege, and it becomes his duty, to live within, not up to his means. The man who feels that he is earning something more than he is spending, will walk the streets with a lighter heart, and enter his home with a more cheerful countenance, than he who spends as he goes, or falls gradually behind his necessities, in acquiring the means of meeting them." And so we should neither be indolent when want is creeping upon us, nor die in the forenoon (if we can help it) from considerations of economy, as Tom Wyatt did:

"Silent, beneath this churchyard stone,
Lies stingy Thomas Wyatt;
He died one morning just at ten,
And saved a dinner by it."

Mignonette.—In its native country this is a shrub, and not an annual as with us. It should be sown in a light sandy soil, as when it is grown in a stiff soil it loses its fragrance. When it is wished to obtain the tree mignonette, a vigorous plant of the common kind should be chosen from seedlings sown in April, and put into a pot by itself; all the Summer the blossom-buds should be taken off as fast as they appear; and, in the Autumn, the lower side-shoots should be taken off, so as to form a miniature tree. It should afterwards be transplanted into a larger pot, with fresh soil, formed of turf broken into small pieces, and sand. The plant should be kept in a green house or warm room all winter, and regularly watered every day, and in the spring the stem will appear woody. The second summer, the same treatment should be observed, and the following spring it will have bark on its trunk, and be completely a shrub. It may now be suffered to flower, and its blossoms, which will be delightfully fragrant, will continue to be produced every summer for many years.—*The Horticulturist.*

Something for All.—So various is the appetite of animals, that there is scarcely any plant which is not chosen by some and left untouched by others. The horse gives up the water-hemlock to the goat; the cow gives up the long-leaved water-hemlock to the sheep; the goat gives up the monk's-hood to the horse, &c.; for that which certain animals grow fat upon, others abhor as poison. Hence no plant is absolutely poisonous, but only respectively. Thus the spurge, that is so noxious to man, is a most wholesome nourishment to the caterpillar. That animals may not destroy themselves for the want of knowing this law, each of them is guarded by such a delicacy of

taste and smell, that they can easily distinguish what is pernicious from what is wholesome; and when it happens that different animals live upon the same plants, still one kind always leaves something for the other, as the mouths of all are not equally adapted to lay hold of the grass; by which means there is sufficient food for all. To this may be referred an economical experiment well known to the Dutch, that when eight cows have been in a pasture, and can no longer get nourishment, two horses will do very well there for some days, and, when nothing is left for the horses, four sheep will live upon it.—*Farm Journal.*

Senior Editor's Table.

The *enlightened* American Christian and Patriot would not desire that we should all be farmers; for then there would be everybody to sell and nobody to buy agricultural produce. The farmer, in such a case, would dwindle to a mere peasant. He could command no money, could make no exchanges, could indulge in no luxuries. The real comforts of life would have to be reduced to the lowest possible point. All stimulants to industry would be taken away. Indolence, stupidity, semi-barbarism would follow. In such a state of things it would be of no use to urge upon the farmer that his is a noble profession, that he should be educated for it, should be a man of taste, of enlarged mind, of liberal views, of great refinement. It would simply be asking of him an impossibility. You might as well tie a man's feet and tell him to run. But let the farmer know that there will be a demand for all he can grow, that there will be a market for his produce, independently of some accidental deficiency abroad, a home market at renumerating prices, and there will be no lack of enterprise in his calling. What we want is, that a portion of the people, say one-half, should seek a living by the farm, while the rest, equally industrious in other callings, and contributing equally to the general good, should be consumers of farm produce, willing and able to pay a renumerating price for it, thus assuring the farmer of a stable demand for produce at reasonable prices. Then he will work cheerfully; will set his head at work to devise ways and means of increasing productiveness; will pay a good price, and freely too, for labor; will improve his lands, adorn his home, and give his children as good an education as the best. What the farmers of our country want, is that the men who make their iron should make it here, and consume their produce the while; that their wool should be grown here, and that the manufacturer of their cloth should feed on the farmers' surplus of breadstuff; that, as a nation, we should become truly independent—able to supply our own wants. Why should the Scotchman make our iron and the despot of the Russian serf get the money we pay for it, unless we love foreign despots better than our own farmers? If we ever learn to develop our own resources, instead of enriching foreign nations; and to manufacture for ourselves, instead of depending upon foreigners for the very necessities of life, it will be well for American agriculture. Such a race of farmers as the world

has not yet seen will exist among us. At present, the English farmer has all the advantage of the American. He pays, in rents, poor rates &c., from 20 cts. to $50 per acre, annually, for his land, averaging perhaps $12 an acre for the use of good, arable land; but this is little compared with the higher price he will get for produce for the next few years, provided the policy of his Government and ours should remain as now. And we would positively rather be the owner of a ten years' lease in that country, than of a farm in fee simple in this, so far as the laying up a competency for old age is concerned, unless important changes are to take place here, and a larger portion of American industry is to be turned to mining and manufacturing, thereby at once encouraging immigration and assuring the farmer of a stable market and remunerating prices. It is vain to say that prices have been high enough, and too high, the year or two past. We know that there was a cause for this, a mere temporary cause, one which *may* not, and which every good man hopes *will* not return.

A judicious protection to *any* and *every* branch of productive industry is a protection to the farmer; is not enriching somebody else at his expense, but enriching him, or what is better, is enabling him to become rich, by his own labor and enterprise; is making his business *a paying business*. If the *Loom* and the *Anvil* are to remain in Europe, if the men who work them are to remain there, and are to continue to be fed by the serf of continental Europe, it will not pay to run the *Plough* deeply and widely on our broad prairies. We have been advocates for deep ploughing, thorough cultivation, and high intellectual culture among farmers; but unless the Plough, the Loom and the Anvil can be brought together, so that the men who swing the sledge and the women who watch the shuttle can feed on the products of *our* fields, we may have to change our tone, to conclude that shallow ploughing and heedless cultivation will produce all that we shall need, and that the production of more will only injure the farmer by lowering the price. We may be driven to the conclusion that the farmer may as well plough shallow and take it easy, on the ground that if he exerts himself ever so much he will not be able to educate his children and save something for old age. But hoping for better things—that the farmers of our country will see their true interests, will demand their rights, and *will get them*—we would speak a word of encouragement to the farmers. The times are changing. Fifty years ago the farmer gave 8 lbs. of veal for a pound of cut nails, to mend his fence with, not but half as good as we now make. This never can happen again. Should our Government do its worst, instead of doing its best, as we confidently expect it will, it could never bring farm produce as low, compared with those things which the farmer has to buy, as it was when the British Government compelled us to buy all our goods of her, except such as we could manufacture in the chimney corner, or as it was for many years after we became *nominally* independent, but were *really* dependent on Great Britain for every necessary of life, except what grew on the farm. There may be a temporary glut of bread and meat. We should not think it strange if within one year the farmer should find himself producing at a miserably small profit, perhaps at a positive loss. But it will not last. The American people are beginning to understand better than ever before, that their true interest is to distribute themselves among all the industrial arts, with a view to the production and interchange among ourselves of whatever we need;

that if the foreigner is to work for us, he must work on our own soil—dig the ore from our own mountains, smelt it with our own fuel, and work it into whatever forms we require, for his own and our benefit, and not for the special benefit of foreign landlords and tenants. Hard times may be ahead. We know nothing about that. But we confidently believe that, in the long run, farming will be so far remunerating, that the man who has chosen it for the field of his life's industry will have no occasion to regret his choice; no lack of means to make his home comfortable, inviting, tasteful; none, to educate his children well enough to enable them to enter advantageously his own profession or any other they may choose.

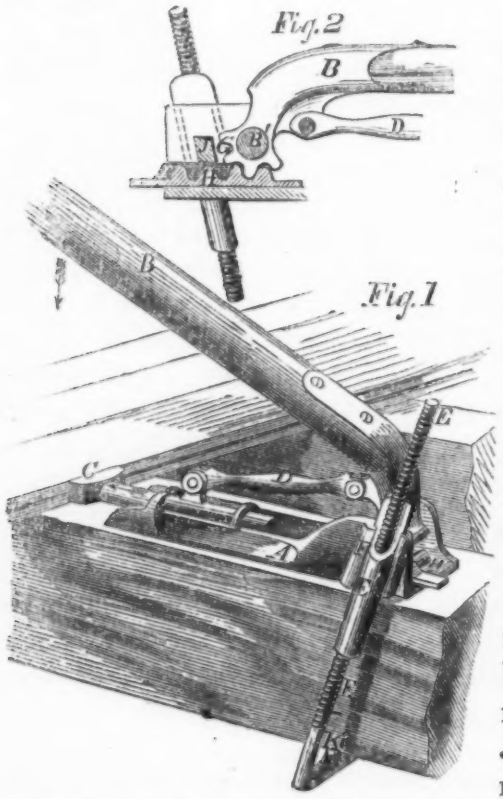
We can never be satisfied till we see the American farmer head and shoulders above the farmers of other lands. Instead of *all work and poor pay*, we want it should be *intelligent industry and sure pay*. It ought to be so. It will be. Since our last issue we have had occasion to travel leisurely through parts of New York, Connecticut and Massachusetts, and to make a hasty excursion or two into New Jersey. We see here and there a farm in a very old style; laid out with no regard to order or system; the fields taking such shape as the convenience of the moment must have dictated; fences overgrown with bushes, briars, weeds; no neat garden, producing food and luxuries, and adorned with flowers; buildings, looking very much as if the owner had failed to profit by late high prices; manure heaps, redolent of what would be better under ground than above; the whole indicating the lack equally of an eye to profit and of a humanizing taste. But happily these are the exceptions. The occupants of such farms, we suspect, do not take an agricultural paper. They do not learn what others are doing. They have fallen behind the times. Almost everywhere signs of improvement are manifest. Nearly all crops we see are promising. Farm buildings, with a few miserable exceptions, are assuming a more pleasing aspect. There is better economy in their construction—more neatness, convenience and good taste. The farmer dwells in Nature's temple, is always surrounded by the works of Divine Art, takes lessons from the choicest pencillings of a perfect Master. In matters of order and taste, of neatness and economy, he should be second to none. It is too bad when, as in some instances, rare but not as rare as we wish, he makes his premises a blotch on the fair face of creation.

We had more to say, but the printer's *claudite rivos* (shut off your gossip) warns us that our pages are full. We had intended, among other things, to ask our farmer readers, who of them will get up a club for us, of four or more, on the conditions mentioned on the second page of our cover? We do not believe that our journal is the only good one of the kind, nor that it will be, for although we hope to improve from month to month, we believe others will improve also—that there will be a general improvement in agricultural journals, as there is in agriculture. Yet we mean to make it good among the good; and when we ask our farmer friends to aid in its circulation among their neighbors, we ask but what we think they will approve, and will carry into effect as opportunities occur.

Mechanical.

IMPROVEMENT IN CARPENTERS' CLAMPS.

A NEW invention of this kind has recently been patented by Mr. H. W. Oliver, of Whitneyville, Ct., which is designed to assist carpenters in clamping boards firmly together during the process of laying floors.



A is the bed plate of the instrument, having a hand lever, B, pivoted near its lower end, at B. C is the clamp bar, connected with lever B, by means of rod D. When lever B is pressed down, clamp C will be moved forward, in the direction of the arrow, and pressed against the edge of the board.

The implement is attached to the floor beam by means of the screw hook, E, the nut of which slides up and down between the guides, F, on plate A. The lower end of the lever B terminates in a segment gear, G, (see fig. 2) which works the rack, H. back and forth. One end of the rack, H, is made wedge-shaped, J is a button which attaches nut E to A. When lever B is pressed down, the rack, H, moves in the direction of the arrow, and pushes the wedge, I, under button J, whereby the latter is lifted, and with it the nut E, and the hook screw, E. The teeth of the latter, at K, are thus made to enter the beam and hold the implement from slipping.

When the rack, H, is moved in a contrary direction, the wedge I withdrawn from beneath the nut J, and the hook screw, E, drops, carrying the teeth, K, out of the wood, so that the implement may be moved along on the beam to a new position.

When the lever, B, is bent down (as in fig. 2,) it remains self-fastened, the rod, D, being brought to a parallel line, like a toggle joint.

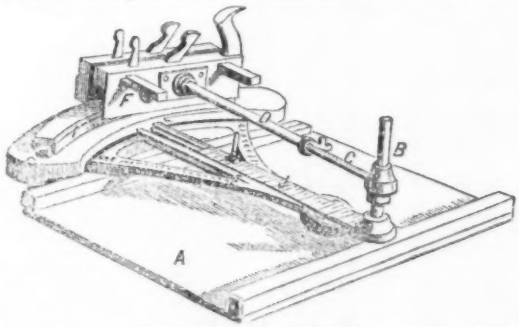
The facility with which this implement may be fastened and de-

tached, its simplicity, cheapness of manufacture, and great strength, render it a most excellent assistant for carpenters.

J. A. Knight & Co., 334 Broadway, New-York city, is agent, &c.

FELLY CUTTING MACHINE.

THE difficulties heretofore experienced in regulating the curve of the fellies of wheels seem to have been well met by a recent patent secured by Mr. William M. Johnson, of Clifford, Pa., in which the curve is adjustable to the size and depth of the felly which it is desired to cut, in a very perfect manner. A is the bed-piece, which supports the working parts of the machine; B is a stationary upright guide pin, upon which the hub turns which holds the rod, C, passing into and adjustable within the tube, D, the tube, D, being made fast to the plane, F, as represented. The felly, I, is made fast to the felly-table, G, which is also made adjustable with the centre pin, B, by means of the bar, J, sliding within a dove-tail channel of the triangular frame attached to the bed-piece, G. A clutch upon the top of J holds it firmly in place, except voluntarily moved and set by the graduated bar, J—C being graduated, the tube, O, is also made adjustable as desired.

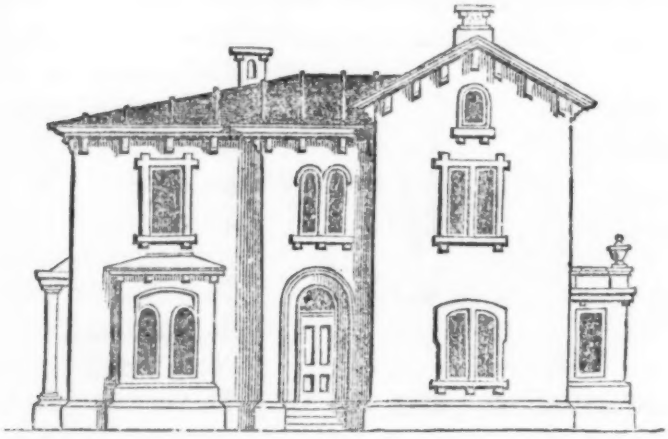


Fellies for carriages are planed very rapidly by this machine, and the work is of good quality. The plane here represented is moved by hand power, which wagon-makers ordinarily would use. Any power may, however, be applied.

NEW CORN PLANTER.—Messrs. R. W. Fenwick & Reinhold Boeklin, of this city, have recently obtained two patents for a machine for planting and covering corn by hand. The invention consists, first, in the conical valve on the lower end of the seed slide, whereby the discharge of the seed can be effected simply through the depression of the seed tube and resistance of the soil against the seed slide as the tube descends, and thus the necessity of employing loose connections for operating the seed slide avoided; and, second, in the hinged plate on the lower end of the seed tube, whereby a quantity of earth is always taken up, no matter what may be the nature of the soil, and dropped on the corn in a manner to cover it perfectly, as fast as it is discharged from the seed tube. It can be made by a common workman, is quite cheap, compact and durable, and so constructed that it must plant regularly and surely as it enters the soil, clamp a quantity of earth, and, when raised out of the soil, lift and drop the same upon the seed, so as to cover it.

SMALL COUNTRY VILLA.

THE elevation of the principal front consists of a gabled projecting portion, forming the main part of the building, and which is higher than the rest. It contains the family-room, dining-room, &c., and has an attic above the chamber, lighted in front and in rear by a circular-headed window.



On one side is seen the elevation of the end of the projecting bay in the library, finished with a corner piece, supporting a pedestal and vase, between which and the wall of the house is a balustrade, which may form a balcony to the second story side window. At the side of this portion of the building, slightly recessed, is the porch, with its open arch below and couplet window above. This recess is just sufficient to permit the projecting cornice of the roof to abut against the side of the main wall. Receding from this is that portion of the building containing the drawing-room, with its projecting bay window in front. The roof is covered with tin, laid over rolls. The cornice is supported by simple brackets.

The other sides are finished in a corresponding manner, the whole illustrating, in a good measure, the modern Italian models.

The entrance porch, the inner entry, and the conservatory would permit the use of encaustic tiles. The terrace might be floored with strips of wood of different colors, as black walnut and yellow pine, in some geometric pattern, the whole being oiled and varnished. The walls may be decorated with panels, or the room might be divided into two, without material damage.

The height of the drawing-room, hall, dining-room, and library should not be less than twelve feet, the rooms in the rear being nine feet in the clear.

Such a building should stand upon rising ground, with a still higher background, and with shade trees. A verandah round the drawing-room might be added.

The PRINCIPAL FLOOR is thus arranged. No. 1 is the principal entrance, being an open porch. No. 2 is the entry. No. 3 is the inner hall, separated from No. 2 by glass and double doors; this hall is nine feet wide. No. 4 is the large drawing-room, 30 feet by 16, with projecting bay windows in the front and

upon one side. No. 5 is the dining-room. No. 6, family parlor or library, with a deeply embayed window or wing, No. 7, forming a pleasant retreat for reading, &c. One of its windows opens upon a covered terrace, No. 8, the other end of which terminates with the conservatory, No. 9, a view into which may be obtained from No. 7. No. 10 is an entry. No. 11, a passage way into the kitchen, No. 14, and is provided with shelves, &c. No. 12 is a store or china closet, and No. 13 the same. The kitchen is 16 by 14 feet. A stairway leads to the second story, underneath which another leads to the cellar. No. 15 is the laundry and scullery, with store closets, &c.

The cellar should be seven feet high, under the whole house, and contain rooms for vegetables, milk, stores, &c.

The Chamber Floor is arranged as follows: No. 1 is the upper hall, lighted by a dome overhead, inserted in the attic floor and illuminated by glass on a level with the roof, not observable from outside the building. Nos. 2 and 3 are large chambers, the former having a very large closet. No. 4 is over the entrance porch. No. 5 is over the family sitting-room, and No. 6 is over the dining-room. A stairway, No. 7, leads to the attic, projecting into No. 6, and corresponding to which on the other side is a closet of similar size. No. 8 is a chamber, No. 9 a corridor leading to a bath-room, No. 10, and to the servants' sleeping-room, No. 11.

The walls are eight feet high to the top of the plate, the ceilings following up the rake of the rafters, so as to permit a straight ceiling of ten feet or more in the highest part of the room. The rooms in the main part of the building, on this floor, are nine feet high in the clear.

As to the cost, this would vary with the changes and additions suggested, and with the material used. It has been built by contract, in the vicinity of an Eastern town, of frame filled in with brick, and smooth ceiled on the exterior, finished substantially, for $4,000.

American Patents.

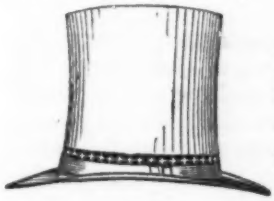
Improved Fire-Arm.—A fire-arm has been invented in Connecticut, having a conical ball like the Minie bullet, with powder inside the ball. The bullet is made hollow, and filled with a charge of powder, and covered with a cap on the end, which, on pulling the trigger, explodes like a percussion cap. The barrel is grooved like the Minie rifle—spirally, so that the ball when discharged receives a whirling motion, which greatly increases its force. The gun is loaded at the breech, by which a ball is introduced larger than the bore of the gun. When the weapon is discharged, the lead is forced into the grooves of the barrel, which instantly prevents all escape of air, and the whole power of the explosion is thus concentrated upon the bullet, which issues from the weapon with incredible velocity. These balls may be left in the water twenty-four hours and yet serve as well as if dry.

Improvement in Wagon Wheels.—Wm. A. Ashe, of New York city, has patented an invention which consists in forming a narrow tongue at the centre of and on the inner circumference of the tire, and a deep, narrow groove, of corresponding shape to the tongue, in the outer periphery of the fellies, for the

purpose of securely fastening the tire on the wheel without the aid of bolts or holdfasts. Another purpose is to prevent the liability of the tire to loosen from shrinkage of the wood. The edges of the tire are made quite thin, so that by use they bend around and conform to the edges of the fellies, thus always keeping the latter in place.

GRAIN HARVESTERS.—John C. Hicks, of Rockaway, L. I., has secured a patent for an improvement in grain harvesters, which consists in a peculiar means of operating the rake, whereby it is drawn over the platform of the reaper, turned around and thrown outward, and then turned to the outer end of the platform to be again drawn inward or over the platform. A motion is thus communicated to the rake similar to that given by the hand, and the grain is swept from the machine and is deposited in regular piles upon the ground.

Another patent has also been obtained by C. Wheeler, Jr., of Poplar Ridge, N. Y., which consists in a peculiar means of operating a reciprocating rake, whereby it is made to descend in a horizontal position and rake the cut grain from one end of the platform with a quick movement, and then ascend and pass back to the opposite end with a moderate movement, during which time the platform is again filled with grain and the rake is lowered and ready for the succeeding stroke.



SELLER'S VENTILATING HAT is a newly patented invention, which effectually serves to keep the head cool in the warmest day, and by thus adding to the comfort of the wearer, is also a protection to the hair, preserving it in a healthy condition. Some of our friends have worn this hat, and speak very highly of it. This contrivance adds about $1 or $1.50 to the first cost, and may be used in hats of any form or even added to an *old one.* The small engraving in the margin shows its nature. The ventilation may be opened or closed at pleasure.

English Patents.

IMPROVEMENTS IN MACHINERY FOR PREPARING, SPINNING, AND DOUBLING FIBROUS SUBSTANCES. By ROBERT ASHWORTH and SAMUEL STOTT, of Rochdale.—This invention consists, firstly—in constructing a compound spindle and tube or collar, that is to say a tube or collar free to revolve in suitable bearings, to which is secured a flyer. Through this tube and the collar of the flyer a spindle or rod is passed, which carries at its upper part a circular plate for supporting the bobbin. Tubes and collars thus made will be steady when running on high velocities, whereby a greater quantity and better yarns will be produced than by means of spindles of the ordinary construction. The circular plate which carries the bobbin is for the purpose of regulating the speed of the bobbin, by acting as a drag, and allowing the bobbin to run at a speed equal to the length of yarn to be wound on the bobbin. Secondly—in pressing together rollers which are used for drawing or pressing together fibrous substances, by an elastic substance, in such manner as not to exert any force or weight on the bearings of the bottom rollers.

IMPROVEMENTS IN MACHINERY FOR SPINNING AND TWISTING COTTON, SILK, FLAX, WOOL, HEMP, AND OTHER FIBROUS SUBSTANCES. By CHARLES FELTON KIRKMAN,

of Argyll-street, Regent-street.—This invention relates to a mode of constructing and working the flyers of certain descriptions of spinning machinery, so as to put two twists into the roving or yarn, at every turn of the flyer, instead of one, as is usually the case, and at the same time causing the yarn to wind upon a bobbin, which is placed vertically and horizontally, and made to rotate within the flyer as the latter travels round it. The flyer employed in carrying out this invention consists of an oblong frame, at the top and bottom of which are attached cross-bars, furnished with eyes, through which the yarn passes from the delivering rollers above to the bobbin within the flyer. The additional twist is given to the yarn by causing it to pass from the upper part of the flyer several times round one of the legs and arms of the flyer, to the lower part of the same, and thence up through an eye beneath the bobbin, on to and around the latter, which is caused to rotate, at a proper surface speed, by means of a roller which rotates in contact therewith, and is actuated by suitable gearing within the flyer.

Improvements in treating Oils and Fatty Matters. By Antoine Fidelis Cossus, of Cagliari, Sardinia.—This invention consist in treating and purifying oils and fatty matters with powdered carbonized peat and schist, and afterwards running into a filter, in which the fluid portions pass through several partitions covered with fabric; each successive partition being covered with a finer fabric than that through which the fluid last passed. After this process of filtration, the oil or fat is finally cleared, by being passed through unsized paper stretched over a cylindrical or other suitably formed frame.

Improvements in Machinery or Apparatus for preparing Cotton and other Fibrous Substances for Spinning. By Evan Leigh, of Collyhurst, Lancashire.—This invention relates to an improved method of making cotton "laps" for carding engines, and more particularly for "finisher cards." In the present mode of making cotton laps on blowing machines, and others, termed "Derby doublers," there is nothing but the cohesion of the fibres of the cotton wool when pressed to bind the laps together, and great inconvenience arises, and much waste is occasioned by the rolls sticking together whilst unlapping at the "carding engine." The present invention consists in preventing this inconvenience and waste, by traversing a bobbin of slubbing or of soft twisted cotton (or sliver of cotton, twisted or untwisted, from a can) transversely across the machine whilst the lap is being made, and allowing such slubbing, roving, or sliver to draw off the bobbin, or be withdrawn from the can through the calender rollers of the machine, and be rolled up with the lap in a zig-zag or diagonal direction, which has the effect of tying or binding the cotton laps better together—preventing their expansion when taken out of the machine—allowing of their transport without injury, and of their unrolling freely.

Improvements in constructing Air Springs. By George Bell, of Cannon-street, West.—This invention has for its object the constructing of air springs for carriages and other uses, and consists in employing water or other fluid, (provided with flexible covers of waterproof fabric) in enclosed metal chambers wherein the air is confined, in such manner that the water keeps the air from coming into contact with the flexible covers, and also from coming near the openings where the air is introduced, and also from the joints of the chambers were the covers are fixed. Hence the air will be enclosed on all sides, except where it is in contact with the water or other fluid in a metallic chamber, in such manner as to prevent leakage.

Improvements in the Manufacture of Chlorine. By Charles Tennant Dunlop, of Glasgow.—This invention relates to the employment of the residuum obtained in the manufacture of chlorine, which residuum ordinarily consists of chloride of manganese, in the preparation of an artificial oxide of manganese, which is well suited for the manufacture or production of chlorine. The special process preferred by the patentee in carrying out his invention is the transform-

ation of the chloride of manganese into a carbonate of manganese by the agency of any of the means already well known to chemists, and then subjecting the carbonate thus prepared to the action of heat in contact with atmospheric air. Whatever impurity the chloride of manganese may contain, as chloride of iron for instance, is first separated either by calcination or by the agency of a suitable precipitant. Practical working has decided that the carbonate of manganese, thus treated, yields an oxide of manganese of a richness equivalent to about eighty per cent. of pure peroxide.

The carbonate of magnesia may be obtained by precipitation from the chloride of manganese by the agency of carbonate of ammonia. The muriate of ammonia resulting from this treatment may either be sold or employed as such, or it may be retransformed into a carbonate in the usual way, and then again employed for the precipitation of fresh chloride of manganese. Hydrate of lime is also employed in the production of carbonate of manganese from these residual matters; the hydrated oxide of manganese thus obtained being subsequently transformed into carbonate of manganese by the transmission through it of carbonic acid.

By another process, carbonate of manganese is obtained by passing carbonic acid through the solution of chloride of manganese which has been previously mixed with a quantity of carbonate of lime. The carbonate of lime under the influence of the carbonic acid decomposes the chloride of manganese into carbonate of manganese, from which latter substance the oxide of manganese can be obtained, as well as chloride of calcium, which remains in solution. The production of oxide of manganese suitable for the obtainment of chlorine has been often attempted by following the process of precipitating the manganese as an oxide, and then bringing it to a higher state of oxidation by heating it in contact with atmospheric air, as well as by other means. But the essential feature of the present invention is, the production of oxide of manganese from the residuum of the chlorine manufacture, by first manufacturing or producing the carbonate of manganese, and then heating this carbonate in contact with atmospheric air.

Improvements in constructing and lubricating the Bearings of Mule Spindles. By Samuel Oddy, of the Adelphi Iron Works.—This invention consists, first, in making the front of the top bolster or rail in which the spindles revolve open, so that a portion of the spindle may be exposed to the action of a piece of felt or other suitable material, by which the oil or other lubricating material is absorbed and imparted to the spindles. Secondly—in making the footsteps of mule spindles in rails of any convenient length, with a rib to guide the lubricating material into the footsteps. And lastly—in covering the footsteps with lids extending over several spindles to prevent the escape of the lubricating material, and to keep the flyings out of the footsteps.

Improved Mechanism for operating the Shuttles of Looms. By William Edward Newton, of Chancery-lane.—It has been hitherto supposed that a shuttle when driven from the shuttle-box must preserve a nearly horizontal position to prevent it from flying out of the web; and to accomplish this, a picker, sliding upon a rod, has been most generally used, which picker was impelled by a string or picker staff. To obviate the use of a sliding picker, resort has been had to a means of so hanging the picker staff as to give it a rectiliniar motion, or a motion parallel to the shuttle, by means of one or more pivoted arms, or by connecting a rocker to it, which gives it a variable fulcrum. The object of the present invention is to avoid the use of all these devices; the inventor having found that the picker staff, confined at the lower end by a pin, in the usual way, for driving the sliding picker, will act equally well directly upon the shuttle, provided it does not pass much beyond the perpendicular. In carrying out this plan, the bottom of the staff is placed as near the side of the loom as possible; so that when it stands perpendicular it is nearly at the end of the shuttle-box.

This improvement therefore consists in the use of a picker staff (for driving

the shuttle) hung in the usual way, but so that its action on the shuttle shall cease when it has reached a perpendicular position. If the picker staff passed over a larger portion of the arc of a circle than above mentioned, it would, as soon as it passed a perpendicular line, begin to depress the heel of the shuttle and elevate its forward end, so as to cause it to shoot out of the loom. But during the first part of its progress the tendency of the staff is to raise the heel and depress the forward part of the shuttle, which is desirable in weaving, inasmuch as when a picker is used it is set somewhat rising or inclined to point the shuttle slightly downward.

Apparatus for Cleansing out the Sediment from the Water in Steam Boilers and preventing Incrustation of the same. By Edmund Topham, of Nottingham.—This invention consists in adapting to the interior of steam-boilers, and at or near the bottom and angles thereof, certain apparatus, designed for the purpose of agitating and drawing off the water in the boiler occasionally, so as to prevent incrustation, occasioned by the adhesion of the sediment (contained in the water) to the boiler.

The apparatus consists of a shallow scraper, fitting loosely within the boiler, and having one, two or more rods, attached thereto for actuating the same from the outside of the boiler, which rods pass through glands or stuffing boxes of the ordinary kind. At the back end of the bottom of the boiler is an opening, beneath which is affixed a pipe for carrying off the sediment which has been precipitated from the water in the boiler during the day; the discharge of the sediment being effected by the attendant moving the before-mentioned scraper to and fro, by means of a suitable handle or wheels affixed to the outer end of the rods to which the scraper is attached; or, if necessary, the scrapers may be actuated at stated intervals of time by a steam-engine. As, however, the frequency with which the scraper is required to be used will depend greatly on the quality of the water, it must therefore be left to the discretion of the workman in charge of the boiler to use it as often as he finds it necessary. For general purposes about once in every twenty-four hours will be found sufficient.

Improvements in the Manufacture of Pile and other Fabrics. By William Wood, of Monkhill.—This invention relates, firstly, to sizing and dressing, by brushing and smoothing, mohair and other pile warps or yarns, in order to lay the loose hairs or fibres, and preventing their catching or locking together in the crossing of the threads for the sheds, in weaving pile fabrics. Heretofore, when weaving pile fabrics, the mohair and other pile warps have been used without being previously sized and dressed, and it is found that the loose fibres, projecting from the threads, when thus used, by looping with each other, prevent the proper opening of the shed, and thereby impede the proper insertion of the wire and the passage of the shuttle. But by subjecting the pile warp yarns to a sizing process, and then brushing and thereby smoothing the same as they come from the size, the otherwise loose fibres are laid close to and longitudinally of the threads; whereby such threads, by the smoothness produced to their surfaces, cross each other freely, and perfect sheds are obtained for the wire and the shuttle.

Secondly—the invention relates to wetting and damping the yarns, especially those for the warps, whilst being woven into velvet and other pile fabrics, at or near the point wherein the weaving cloth is produced. In the weaving of mohair and other yarns in the manufacture of piled fabrics, the patentee states, that the closing together of the fabric at the point where cloth is produced, is much facilitated if the threads of warp are wet or damp, especially when dressed pile warps are used. To effect this, he employs, by preference, a rotating or other brush, suitably supplied with moisture, and carried by brackets from the lay swords or arms, and moving with them; so that when the lay is at the back, or furthest from the cloth, the bristles of the brush used may penetrate amongst the warp-threads, and moisten them; and when the beat-up takes place, the brush, by coming forward with the batten, will be brought into contact with the surface of a brush or roller, revolving in a trough of water or other

liquid from which it will receive a fresh supply of moisture. The water or other liquid is kept heated by steam or other suitable means, as it then more readily penetrates the fibre, and is more effective in softening it. Another mode of producing this moistened and softened effect, whilst weaving pile and other fabrics, is by applying a perforated or slit pipe to the batten, in lieu of the brush, and allowing steam to escape therefrom amongst the warp-threads, at the time the lay is at the back. In order to admit of such pipe moving with the batten in the beat-up, steam is conducted thereto by means of a tube of vulcanized india-rubber, or other suitable material, and the admission of steam to such pipe at the time desired, and the shutting it off therefrom, is governed by a tap or valve, operated by studs or projections at each to-and-fro-motion of the batten.

Thirdly—the invention relates to using, for the pile warps of pile fabrics, single spun threads of mohair, worsted or cotton, instead of doubled threads, as is usually the practice.

Heretofore it has been customary to use for the pile-warps of pile fabrics, threads composed of two or more single yarns twisted together—thereby involving the cost of spinning the single yarns as fine again, or thereabouts, as they are ultimately used, when the two are afterwards twisted into one thread, and also the course of such twisting together and doubling. Thus, supposing the size of thread desired is that known as N° 20^s, if that thread is composed of two threads, each must be first spun to N° 40^s or thereabout—and being then twisted together, they produce the size desired; whereas, if the threads are used single, they need only be spun to N° 20^s. By using single in place of double spun yarn for the pile-warp, a much softer and fuller appearance is said to be obtained to the pile surface, especially to cut-pile or velvet-fabrics, than when double spun yarn is employed. In carrying out this part of the improvements, the single yarns are dressed, by sizing and brushing, before weaving, as mentioned under the first head of the invention.

Fourthly—the improvements relate to raising one-half of the pile-warp threads at a time, to form a shed when weaving silk, worsted, or cotton velvet, or cut-pile carpeting, in order to avoid a striped appearance on the face of the fabric.

Heretofore, when using silk or cotton in the production of velvet, or worsted in the production of cut-pile carpeting, it has been usual to raise up the whole of the pile-warps required to form a complete row of loops across the fabric at one operation, and (where wires are used) over each wire; whereby the loops formed have been in rows from selvage to selvage of the fabric, and a striped appearance is thereby produced. But it is found that by raising up only one-half of such pile-warps at a time over each wire (when wires are used), that is, one half over one wire, and the other half over the next wire, the transverse rows and stripes are broken, and a much more even and regular appearance is produced on the surface of the fabric.

Improvements in Self-acting Temples to be used in Weaving. By William Maynes, of Stockport, Cheshire.—This invention applies to self-acting temples of that kind which present a continuous bar or streight-edge parallel to the face of the reed, over which the cloth passes, and upon which it rests. The only form of this temple which has hitherto been brought into extensive use is that called the "trough" or "box and roller" temple, which consists of a long roller revolving in a semi-cylindrical box or trough. The present improvements apply partly to the instrument and its form, and partly to modified constructions of it, wherein the essential characteristic of a continuous bearing bar or straight-edge is retained, while other arrangements are dispensed with.

Improvements in Smelting, and in Apparatus to be used therein. By William Turan, of Marazion, Cornwall.—In his improved method of smelting, the patentee divides the internal bore of the blast nozzle or nozzles in such a manner that it or they shall deliver a divided jet, or two or more jets of blast, into the interior chamber through the same tuyere; the pressure, tempe-

rature, and general qualities of the blast delivered by the respective jets being either alike or dissimilar, as may be advisable, and of such form and relative proportions as the peculiar circumstances of the furnace and materials may require. The throat and mouth of the interior chamber, through which the decomposed blast escapes into the atmosphere, and of so much of the interior chamber as lies above the boshes, is constructed of a breadth equal to or in excess of the breadth of the chamber at the upper bosh line, and of an area in the plan section equal to or in excess of the area at the upper bosh line.

The form of the jet and the intensity of the blast delivered by the respective divisions of the divided nozzle-pipe may be varied by substituting other nozzles differently divided, and the general dimensions of the nozzle likewise may be adapted to local circumstances; but it is preferred to form the nozzle of two cylindrico-conical cases of different size, the lesser being inside the larger, and maintained in its position excentrically or concentrically, as may seem best, by suitable connecting pins or pieces—care being taken that such connections do not materially impede the delivery of the blast. When it is desired that the blast issuing from the circular central orifice shall be of equal pressure and intensity with that issuing from the annular orifice, the proportion of taper, if any, in both inner and outer cases may be nearly similar.

By means of the improvements herein described, iron ores are smelted with greater economy of fuel, blast and other materials than heretofore, and iron ore of every description are smelted with raw or uncoked coal, which hitherto has been coked before use in the blast furnace; and iron of fine quality is produced without passing the ore through the preliminary operation of calcination, which has not heretofore been accomplished with the ores known to geologists as the carbonates of the coal formations, and to practical smelters as the clay band and black band iron stones.

Making Letter Envelopes.—Tons of paper and barrels of mucilage are used up in this city every month in the manufacture of an article so unpretending as letter envelopes. Four firms are engaged in the business on a large scale, and several others in a small way. It is estimated that the number of envelopes made in this city every week, is at least 40,000,000. Out of New York, there is a factory in Worcester, Mass., which manufactures to a large extent, and there is one doing a more moderate business in Philadelphia.

The process of manufacture may be thus briefly described. A ream of paper, or about 500 sheets, is placed under a knife of a shape corresponding with an envelope when entirely opened, which is forced down by a powerful screw press, worked by a hand lever. The pieces cut out, slightly adhering at the edges, from the action of the knife, resemble a solid block of wood until broken up. The flap is afterwards stamped by a similar process. A boy is able to prepare 50,000 per day in this manner, taking one, two or three envelopes at each movement of the hand. They are then taken by 100 girls, seated at long tables, by whom they are folded and gummed. A single girl will apply the gum to 60,000 or 70,000 in a day, and from 5,000 to 7,000 may be folded in the same time. In these processes the girls acquire great celerity and skill, being stimulated by the wages offered, which vary from 12 to 30 cents for each 1,000. The envelopes are next counted, banded, and packed. Some varieties are embossed or otherwise decorated, requiring additional labor. The establishment of which we are now speaking, consumes not far from twelve tons of paper per month, in the single article of envelopes. This quantity of paper, at 10 cents per pound, would cost $2,400.

TRADES IN LONDON IN OLDEN TIMES.

We find in a musty English folio in the Astor Library, published in 1754, that the principal trades in London were duly incorporated, the members having peculiar privileges, amounting generally to a monopoly within the city. The reason for this is thus stated: "As the government of this city is chiefly maintained by the superior magistrates, before spoken of, viz., Mayors, Sheriffs and Aldermen, so a necessary part of the government thereof consists in the Companies of the Freemen, which freemen seemed anciently to be called *Barons*."

Baron, in its widest sense, signified a freeman or one born of free parentage or a free citizen. Hence "the barons of London" meant the free citizens of London.

These barons consisted of different classes of citizens, of which a part were members of corporations, or persons embodied together, by charter, for the better management of affairs, having also trusts of charity reposed in them, and being endowed with lands and livings for that purpose. Of these companies, there were almost as many as there are "trades and mysteries practiced and possessed. But the first twelve are the chief, and are by some styled *Honourable*." It was required that the Lord Mayor belong to one of these twelve.

The first of these companies was

The Mercers.—These were incorporated in 1393, or in the 17th year of Richard II. They could hold lands to the value of £20 by the year. The company consisted chiefly of such as sold rich silks, brought from Italy, and who lived for the most part in *Cheapside*, *St. Lawrence-Jewry*, and the *Old Jewry*. The mercers were afterwards called merchants. The company was managed by four warders and about forty assistants. These are the overseers of the school of St. Paul's and of Mercer's Chapel school. "Their hall stands," says our author, "in Cheapside, near the Poultrey, and has likewise a pair of handsome gates leading into it out of Ironmonger-lane. When any one of this company is chosen mayor, to make one of the triumphs of the day when he goes to Westminster to be sworn, a beautiful young virgin used to be carried through the streets in a chariot, in all the magnificence imaginable, with her hair dishevelled and hanging about her shoulders, to represent the maiden-head which the company give for their arms. And the lady is plentifully gratified for her pains, besides the gift of all the rich attire she wears. Such a pageant made part of the splendor of the day in 1701, when Sir William Gore was mayor."

There was also erected a large fund for the widows of clergymen and others, which was commenced in 1698. It amounted to near £100,000.

There have been near a hundred Lord Mayors of the Mercers' Company.

The second of the twelve companies was that of

The Grocers, which was incorporated in the 20th year of Edward III., A.D. 1345. Its officers were a master, four wardens, and seventy assistants. The Hall of this company was in the Poultrey, and was afterwards used by the Bank of England, until they erected for themselves their own banking-house.

This company traded in various commodities, by wholesale and retail; such as figs, almonds, raisins, corinths or currants, sugars, spices, etc. They dealt so largely in pepper that they were sometimes called *Pepperers*.

Starch was first sold by the grocers, and was introduced in the latter part of

the reign of Queen Elizabeth. In 1544 or 1545, Sir John Packenton obtained the Queen's patent for the exclusive manufacture and sale of starch. Hence the grocers were cut off from this trade. This company also held lands and funds. Most of their property was consumed in the great fire. They afterwards rebuilt their hall, in such style "that it far exceeded any hall that now (1754) is or probably ever was in London." They have also built seven alms-houses, and their charities became very extensive.

Drapers.—The company of drapers was incorporated in the 17th year of King Henry VI., A. D. 1439. Their patroness was the Blessed Virgin. It is governed by a master, four wardens and thirty assistants. The allowance made to the sick and poor is from £10 to £20 per annum. It is not a trading company.

Another company was "set up" in the time of Elizabeth, called the New Drapers, consisting of Italians, Dutch, French and Flemings, "that transported themselves into England in the days of King Edward, and early in the reign of Elizabeth, and wove cloth mixed with woolen and linen. Previously to this, this work was done in other countries, the wool being exported from England. The different kinds of this new drapery are set forth as follows: "Bays of the double middle and single sort, Rash or Shannet of the Florens making, Serche (serge) of the French sort, Says of the Flanders sort, Norwich Grograin, Narrow Woolsteds, Mocadoes, double, single and tuft sort; Plomets, Carells, Fustians of Naples, Blankets called Spanish Rugs, Knit hose of Woolsted yarn." We hope this list is quite intelligible to our readers, more so than to us.

We get, in the account given of this, a little political economy, which will not injure the reader of more recent times. The learned author of the folio lying before us says, "Now they made the Queen's loss by this manufacture to appear thus: a sack of wool weighed 364 lbs., and, being transported by the merchants of the staple, yielded to her Majesty, for custom, 6s. 8d., subsidy 33s. 4d., and license 20s., that is £3. The sack of wool, being converted into cloth, would make four broad short cloths;" and this yielded her Majesty less profit than she received from the sack of wool transported, by 33s. But when afterwards application was made to Thomas Smith, the Queen's customer, for his judgment on these matters, he showed the Lord Treasurer Burleigh "that though there were some loss to the Queen's customs inwards, yet it was recompensed by her customs outwards, and also profitable for the commonwealth, since such numbers of those commodities could not be wrought in the realm by strangers only, but that they must set on work many poor people natives of this realm; and whereas it was thought that the making these would prove the decay of cloths and kerseys, there were as many made then as had been in times past, and as much now within the realm as had been before time, and that it appeared by the custom-books that there were as many carried out of the realm as before."

Fishmongers.—There were two companies of these, viz.: Stock-fishmongers and Salt-fishmongers, each bearing different coats of arms. The patron of the company was St. Peter. It was governed by six wardens and twenty-eight assistants. Among the statutes respecting this company we note the following: That no fishmonger buy a fresh fish before mass at the chapel upon the bridge be celebrated, or at the church of St. Magnus; that no fishermen must sell fresh fish after mass, and salt fish after prime; that no fishmonger ought to go

to buy fish beyond the bounds appointed—none to buy fish in any boat unless brought thence to land. We also notice a complaint for forestalling fish.

The Fishmongers' Hall was erected in Thames street, and was rebuilt after the fire of London, "with a spacious and graceful quadrangle." A life-size image of that famous Lord Mayor, Sir William Walworth, with a dagger in his hand wherewith he slew the rebel Wat Tyler, was placed in a niche in the great hall.

Goldsmiths.—The goldsmiths were incorporated in the 16th year of Richard II., A.D. 1392. St Dunstan was their patron. Four wardens and about ninety assistants composed the government. "The ancient mutiny in the city, between the goldsmiths and the fishmongers, for precedence," says our author, "would not be appeased. The discord remaining, a proclamation was made by the mayor and aldermen, by their own authority, without any other warrant, that the rebels should return to peace, and that none should receive them under pain of forfeiture of life." Some of them were banished and expelled the city, and deprived of their freedom, because they would not render themselves to peace.

At this early period we find the craft skilled in fraud in relation to the quality of their wares. The buyers of silver and gold plate were said to have been wronged of five, eight, and even thirteen shillings in the ounce weight. The goldsmiths vindicated themselves by an address to the Lord Treasurer.

Among the ordinances made for the goldsmiths were an obligation to search twice, thrice, or four times a year for things unlawfully made, "and if any such be found, to break it, though it be worth a hundred pounds, or two," and "to imprison or fyne the partie." The ordinances were to be read before the society, convened for the purpose four times a year, &c. Once a year a jury of twenty-four persons were taken from this company to the court, who in the presence of the Lords of the Council tried pieces of every sort of money coined the foregoing year, and exactly assayed and weighed them. This company obtained several charters in different reigns. Edward IV. made them perpetual. Their hall escaped the great fire, being of smooth brick, with a spacious quadrangle built of free stone.

The goldsmiths deal in jewels and precious stones, and setting them, and in making vessels of gold and silver. In the reign of King William it was enacted that no silver vessel, plate or manufacture should be wrought or made of less fineness than eleven ounces ten pennyweights of fine silver in every pound weight troy, nor sold or exchanged until the same had been marked with the two first letters of the surname of the worker and with the marks of the Company of Goldsmiths, London, being a lion's head erased, the figure of a woman, commonly called Brittania, and a mark denoting the year, under penalty of forfeiture thereof.

There have been about forty Lord Mayors of this company.

Skinners.—The company of skinners was incorporated in the first year of Edward III., 1327, and made a "brotherhood" in the 18th of Richard II. The crest and supporters were granted by William Harvey, in 1561. The name of the company was "Master and Wardens, Brothers and Sisters of the Guild or Fraternity of the Skinners in London, to the Honor of God and the precious Body of our Lord Jesus Christ."

"This company flourished in former times," says our author, "when sables, lucerne and other rich furs were worn for tippets in England." Henry Lane, in 1567, speaks thus of them: "It was a great pity but it should be renewed, es-

pecially in courts and among magistrates, not only for the restoring of an old worshipful art and company, but also because they be, for our climate, wholesome, delicate, grave and comely, expressing dignity, comforting age, and of long continuance, and better with small cost to be preserved, than those new silks, shaggs and rags; whereon a great part of the wealth of the land is hastily consumed."

The skinners were numerous, and "did set at work great numbers of tawyers (tanners) and other poor sort of people. Coney skins, and other furs of that country, were bred or collected by pedlars, and sold to the skinners. These they fitted for wear, and sold to nobles, gentlemen and other subjects of England," while the meaner sorts and parts were vended to any who would buy, and were exported.

But merchants began to trade in these goods, and a controversy arose between them, so that in 1592 the skinners petitioned the Queen on the subject. This petition set forth that, "Whereas they were fallen into great Poverty by Reason of the engrossing and inordinate transporting of Coney skins, and that thereby they could not have Choice of the best sort for her Majesty's Service, and her Subjects, no Pedlers or Petty Chapmen might gather or ingross any Skins or Furs of the Bread of *England*, but under License of the two Justices of the Peace of the Country where, &c.; and that such Licensed should not make Sale of any such Skins or Furs so gathered by them, but to some Persons known to be of the Trade of the Skinners, and that all others might be restrained to buy and transport them."

This petition seems to have been effectual. The company afterwards "upon some trouble and doubt," was confirmed by Parliament. The author from whom we cite, next adds as follows:

"The acte contayneth also a special proviso, That as it iustifiethe all Graunts made to the said Companys of Skynners, so all Leases, Tearmes, Assurances, Acte or Thing, made or graunted by them in Respecte of either of said Incorporations, by any Name or Names whatsoever, shal be good, according to the trowe Meaning of the same, notwithstanding any mistaking, misnaming or not trowe naming of either of said Incorporations."

"The Hall of this company is situated on *Dowgate Hill*, handsomely built since the fire of London, wherein, for the convenience of it, the Lord Mayors sometimes keep their mayoralties, and of late years the *East India* company have occupied a part of it, for which they pay £300 per annum.

"The Skynners is a rich company. They take no quarteridge. It is the sixth of the twelve chief companies. There have been above thirty lord mayors of this company," and they have also "been honoured by having of their fraternity, six Kings, five Queens, one Prince, nine Dukes, two Earls, and a Baron."

Merchant Tailors.—This company was incorporated in the 21st year of King Edward IV., A. D. 1480, and afterwards a new patent was granted by King Henry VII., in which they are styled "The Men of the Art and Mystery of Merchant Taylors, of the Fraternity of St. John Baptist in London," &c. It was a very numerous and very rich company, composed of merchants, drapers, tailors and some other trades, and was governed by a master, four wardens and about forty assistants. The hall of this company was built in Threadneedle-street, was consumed in the great fire, and afterwards magnificently rebuilt.

July 16, 1607, the day of their annual election, King James I., the prince and others of the nobility dined with them at Merchant Tailors' Hall, and were entertained with music, both vocal and instrumental, and with speeches. The King dined in what was called the King's Chamber, and was afterwards presented with a purse of gold. Speeches were delivered, and a roll of the company was presented to the King, which contained the names of seven kings, one queen, seventeen princes and dukes, two duchesses, one archbishop, thirty-one earls, five countesses, one viscount, twenty-four bishops, sixty-six barons or lords, two ladies, seven abbots, seven priors and one subprior, besides knights and esquires, &c. "The King then said that he was free of another company, yet he would so much grace the company of merchant tailors, that his eldest son, the prince, should be free thereof, and that he would see and be a witness when the garland should be put upon his head. And then they resorted to the prince, who dined in the great hall, and the company presented him with another purse full of gold, and the clerk delivered his roll; and his highness said that not only himself would be free of the company, but many of his lords would be free of the company. And he commanded one of his gentlemen, with the clerk of the company, to go to all the lords present, and to require them that loved him, and were not free of another company, to be free of his company. Thus twenty-two earls and lords and many great knights and esquires made themselves free."

There have been about eighteen Lord Mayors free of this company.

HABERDASHERS or HURRERS, as they were called in ancient times, were incorporated as a brotherhood of St. Catherine, in the 26th year of King Henry VI., A. D. 1447. They have also been called MILLINERS, "so named from Milan, in Italy, whence the commodities they dealt in chiefly came; such as owches, brooches, agglets, spurs, caps, glasses, &c. Their shops made great display, and the people were led to spend extravagantly, so that great complaint was made among the graver sort."

VINTNERS.—These were anciently wine merchants that traded chiefly in importing wine brought from Gascoigne, and selling it here to the court and the nobility, and to the retailers that kept tavern in London and elsewhere.

The company had an ancient charter from King Edward III., forbidding "any merchant to trade for wine to Gascoigne, but only such as were free of this craft of vintners." It was also commanded that Gascoigners, when they brought in their wines, should not sell them in small parcels, but by the pipe or ton. Four persons were also to be appointed, "of their own mystery, to oversee all manner of wines sold by retail at taverns, and that their prices were reasonable."

In the 7th year of Edward VI. an act was past concerning the price of wines, and "stinting" the number of taverns in each great town in the kingdom. "Fourty taverns or wine-cellars only are allowed in London, and three in Westminster." But in these early times the plea of "unconstitutiqnality" was urged. It was said to be a violation, not of natural rights, but of the charter of London, which gave permission to every citizen to carry on what trade he pleased. Constant petitions for changes, and new statutes enacted in accordance with them, seem to have rendered the history of those times very similar to our own. We add a few of the ancient rules and ordinances concerning this company, as follows:

It was ordered that "six persons, being vintners, sholn be governors and

counsillors to al vintners and to al vintners' attorneys that shallun pass the seas to Bourdeaux. That after they have landyd and ben there two days, and partely understood of the likelehode of the prices, that or (ere) eny buy, they al meet and take ordere what every man sholn gyve, and none to excede upon payne to forf to the King £xx, and £xx to the Felowship; and who that can espie eny doing the contrarie, be it master or servant, shal have to tell (pay) twenty nobles for his travell. None shall color straungers' goods to the hurt of the King's customes, or highening of the pryce of wynes. None shall sel wynes tyl the Wardeins have given them the pryce, upon payne to forfeit 6s. 8d. for every gallon so sold. None shal utter one wyne insted of another upon payne, for every offence, to pay xxs."

About 170 years ago (the book cited being printed in 1754), the whole number of mere vintners and such as sold wine by retail in London amounted to 128, as appeared by a paper given in, in the year 1564 by the company.

Clothworkers.—This company date their first charter in the 20th year of Edward IV. A master, four wardens, and about sixty assistants formed its government. They were incorporated under the name of "The Fraternity of the Assumption of the Blessed Virgin Mary, of the Sheermen of the City of London." King James I. dined with the Lord Mayor, Sir John Watts, clothworker, and afterwards went into Clothworker's Hall and was made free of this company, with several nobles. When received by the company, the King spoke kindly and with respect, and asking "Who is master of the company?" the Lord Mayor answered, "Sir William Stone." To whom the King then said, "Wilt thou make me free of the clothworkers?" "Yes," said the master, "and do think myself a happy man that I live to see this day." Then said the King, "Stone, give me thy hand, and now I am a clothworker."

Fullers.—King Edward I. established this company to secure this work within the city. It was forbidden that any fuller, dyer or thessaran should carry cloths out of the city to be fulled or dyed, on certain penalties.

Tellars or Telars were weavers of cloth, and were very ancient. We can find but little of them.

Burilers were a mystery for the inspection of cloth woven, as to the well making of them and measuring the breadth of them. Among the ordinances concerning this company were these: That none make cloth mingled with a thread of England and of Spain; that no cloth be made of flocks and thrums, &c.

Fourteen Lord Mayors have been of this company.

TRIP FROM NEW-YORK TO THE WEST.

Wending our way to the Battery Pier No. 1, North river, we stepped on board one of the fine steamers plying between New York and Amboy, and connecting there with the cars for Philadelphia. We found this a delightful sail, and are persuaded that no one who knows the beautiful scenery along which, on this route, he passes, would choose any other. The cars, as usual, were in waiting, and we in due time arrived at Philadelphia. From this city, choosing the most

wild and romantic route, we thence went up through the valley of the Schuylkill, passing the beautiful villages of Norristown, Pottstown, and Phœnixville. These villages are sustained by manufacturing establishments, and illustrate the importance of a home market. This valley is one of the richest mineral regions of the State. Lead, iron, zinc, and copper mines are found there, and are wrought extensively. The Pottsville Railroad and the R. P. Canal, both of which pass through this valley, furnish all necessary facilities for cheap transportation.

Leaving Auburn, our next destination was Harrisburgh. This route passes through a section of country comparatively new. The road was built by a New-York Company for the transportation of coal, found along the route. From Harrisburgh we went to Pittsburgh. Our first view worthy of note was that of the Susquehannah and the bridge crossing it, with the mountains in the distance. The river, the mountains, the rapids of the river, taken together, and combining as they do in one view the sublimities of nature with the beauties of architectural art, form one of the most attractive views on this continent. Passing the bridge, we run along the Susquehannah river and throughout the entire distance the same sublimity of scenery presents itself. Our only regret was that we passed along so rapidly. At Altona we found one of the finest and best kept hotels in the States. The landlord, Mr. Thompson, is a perfect gentleman, whose every effort is to please and render his guests happy. After a refreshing sleep on a clean bed, and a good breakfast, we again set off for the famed Alleghanies. From Altona the road winds up the mountains, the grade being ninety-two feet to the mile for twelve miles. Along this part of the road the scenery is grand beyond conception. The track is cut out of the side of the mountain. Upon your right tower the lofty bluffs of the Alleghanies, whilst to your left appears a yawning chasm, into which you look down perhaps seven or eight hundred feet. Anon we cross this chasm, and nearly doubling our own track again are running along the side of the opposite ridge.

Thus winding around this mountain, and again doubling another chasm, we find ourselves entering a tunnel three-fourths of a mile in length, the passing of which brings us to Cresson, a distance of twelve miles, of the grandest scenery imaginable. After this we pass Johntown, where are many iron manufactories. This also is the termination of the Pennsylvania Canal. Our route was then along the Breakwater Canal to Pittsburg, the battle-ground of Braddock's defeat. From this place appears the smoke from the city of Pittsburgh, the greatest manufacturing city in the Union, and the terminus of the Pennsylvania Central Railroad. The Ohio and Pennsylvania Railroad commences at this place and runs to Crestline in Ohio, thence to Chicago, through Fort Wayne, Cincinnati and Columbus, and opening the entire West. The little Miami Railroad and Great Miami connect Columbus to Cincinnati. These roads run through the most fertile parts of Ohio. There is also a road running from Pittsburgh to Cleveland in Ohio. This entire route possesses peculiar attractions for its scenery, its safety, and also for the urbanity of its officers.

[The above route was taken and described by one connected with this office some weeks since, but was accidentally mislaid. It is yet, however, as good as new.—Eds. P. L. & A.]

FOR THE PLOUGH, THE LOOM, AND THE ANVIL.

INDUSTRIAL STATISTICS.

SAW MILLS NEAR WILLIAMSPORT, PA.

MESSRS. EDITORS:—I herewith send you an account of the different saw mills in operation in this vicinity. To give a detailed description of *all* the different mills which cut the lumber which passes down the West Branch, would occupy entirely too much space, and probably prove of little interest to most of your numerous readers. I will therefore simply notice a few of them between Lockhaven and this place. Lockhaven has in operation four large mills of about two hundred saws, and cuts each day from one hundred-and-twenty to one hundred-and-fifty-thousand feet of inch lumber. These mills include one round and I believe four stock or square gangs. The mills of Mr. Dickenson, at Lockport, and of Messrs. Christ. Long & Co., at Chatham's Run, are each extensive and are doing a large amount of work. Numerous small mills are in operation below these on the river and its tributaries, but we pass to Pine Creek before meeting any doing a very large business. Near its mouth we find the mills of Messrs. Trump & Brothers and the very extensive mills of Messrs. Phelps, Dodge & Co., the product of which I am unable to state. If we go up Pine Creek, we meet, at numerous points, with mills, some of which are very extensive, and do a large amount of business. These are in operation to the distance of seventy odd miles from the river, and at each flood send down a vast amount of lumber. Below Pine Creek, we pass Larry's Creek, studded for miles with mills, but all of a small class—yet doing in the aggregate a large amount of business. At the West Branch Boom, some four miles above this place, we find the mills of Mr. J. H. Perkins doing a large business, and proving itself a superior mill. By its side is the very extensive mill of Messrs. Du Bois & Lowe (not yet in operation). Crossing the river we are at the mill of Messrs. Dodge & Bro., containing one gang, a stabbing gang, and single saw or English gate; together with one large circular, two edgers and a lath saw; next below is the mill of Messrs. Sampson & Ballard, which saws about eighty thousand feet per day. Next the mill of Messrs. Bronson & Co., sawing about sixty thousand feet per day. Below town, we have five large steam mills doing a large business. But I am taking too much space; I will therefore state that the mills are common English or gate mills, merely round gangs, slabbing gangs, common or stock gangs, and circulars—and that here a person can assure himself of the advantages or disadvantages of each kind. I shall at all times be pleased to give either yourselves or your readers more definite information as to the capabilities, cost, &c. of each kind of mill, if desired.

Yours respectfully,

July 8, 1856. J. A. MONTGOMERY.

A WORTHY EXAMPLE.—Minnesota is the model of a prosperous, peaceful, well-governed Territory. The Legislature has just adjourned, having disposed, satisfactorily to the whole population, of all business brought before it. In reply to circulars addressed to the members, to postmasters and other persons in public position, returns of the population have been collected up to May 1st. It is ascertained, with reasonable accuracy, to be 120,000, more than sufficient to justify the admission of Minnesota as a State.

IMMENSE FAILURE OF ENGLISH IRON.

Any experiments which tend to develop the comparative value of American iron, we consider of great value to the industry of this country. We are inclined to the belief that modes and processes will yet be developed by which our own iron will be made equal to any of foreign manufacture, and then Pennsylvania and some other States will secure a trade equal to the whole of that manufactured by Great Britain and Russia at the present day. Hence we value such statements as are contained in the following article from the *Railroad Advocate:*

The New York Central and Erie roads have ordered their tires of the Bowling Works in England. They thus have the advantage of having their tires made to their own order, and if they insist on express care in filling their order, as we have a right to suppose they do—they certainly command, by the value of their patronage, the very best efforts of the English rolling mills. Both these roads have been exclusively committed to the B. O. tire—they have given magnificent orders to the B. O. works. Minot, while on the Erie road, made his last order for $56,000 worth of their tire. The last order of the Central road was drawn up, in the shops, for 1,000 bars or 500 tires, but it was cut down ultimately to about 700 bars.

Well, this was only the *semi-annual* order—the road works up some 1,200 bars or 150 *sets* of tire yearly—and this on a stock of 215 engines, many of them running on the same tire with which they went out of the shop.

The master mechanics of the Central road report the service of their tires at about eighteen months, or 35,000 miles run. They should last twice as long.

So, it appears, the English tires do not last as they should. But to details—at the Syracuse shops of the Central road, it appears that they averaged two welds of broken tire a day for four months of last winter. This was over 200 breaks, on a stock of 85 engines. Thirty were often welded in one week. Mr. Cox, the master mechanic at Syracuse, is putting up a new crane, and making active preparations for a spirited campaign next winter, in welding up broken English tires. Mr. Van Vost at Schenectady, with a smaller lot of engines, says he has had five engines come in, in one morning, with broken tire. At Albany and Rochester the failure of tire was nearly as great. In some cases it seemed like a fatality. One set of tire, $1\frac{7}{8}$ inches thick, broke (each one) three or four miles under a 17 ton engine. As fast as they were welded, they would break in a new place.

But it was not only in breaking that the B. O. tire gave out. Many were lost by splitting in the tread, by flakeing, by crushing, and by having lumps come out, leaving deep, ragged holes in the tread.

But on the Erie road, with the same make of tire, there were few square breaks, but an alarming failure in crushing, scaleing, splitting, etc. At the Dunkirk shop we are told that over *one-half* of all the B. O. tires put on have failed in that way. There is no defect in iron which these tires did not seem to possess.

The Lowmoor tire, being almost identical with the B. O., is of course subject to the same defects. The iron is mined from the same beds, and worked by the same process. The *name* constitutes, as we believe, the real difference in the tire.

The Erie road is using Ames' tires for their renewals, and judging from present indications, will adopt it all together. The Central road, if it were a *poor* road, would have *swamped* under the ill success of the English tire; and rich as it is, can probably afford to save something by using the American tire.

Junior Editor's Table.

EDUCATION; ADDRESS OF H. K. OLIVER, ESQ.—Anything that promotes general education helps the farming and other industrial interests. It is for the want of this among agriculturists, that lawyers and clergymen are so often called upon to make addresses before Agricultural Societies. The city of Salem, Mass., under the mayorship and personal supervision of Hon. S. C. Phillips, has secured one of the most perfect systems of schools and school-houses to be found in the world, and these schools have been so long in operation as to show success to be a point already attained. We have known a gentleman, and a stranger, to journey more than a hundred miles to attend their annual examinations.

Recently, for some cause unknown to us, three schools have been merged into one, having but one head, with numerous female assistants. This Union was celebrated by an address from Mr. Oliver, agent of the Atlantic mills at Lawrence. This abounds in wise sayings, remarkably well expressed, and shows that Mr. Oliver is alike at home in this as in his counting-room. It has been printed in a handsome manner, by Messrs. Ives & Pease, and we esteem ourselves highly honored in being favored with a copy. We would extract liberally, did our limits permit. But we must be content with one short paragraph, while scores of equal worth might be selected. We choose this, because it is short and enforces one of the most important and most neglected of truths:

"Cato said the first duty of the farmer was to plough; the second, to plough; the third, to plough; and *mutatis mutandis*, I say to you, a teacher's first duty is to study; his second, to study; his third, to study—yea even if, at times, flesh and spirit seem almost to break down under it. *Crede experto*—nothing else will permit you to keep up with the demand of the times and the demand of pupils. Therefore study, and if you intend to teach at all, teach with but little thought wasted upon its exhausting weariness, and with few longings for a change of pursuit."

We should like to see a description of the building. It would no doubt be with the careful attention of our readers. Who can furnish it? School-architecture is among the most important of sciences.

EDITORIAL UNITY AND DUALITY.—If any of our readers who note some of the suggestions on page 124 in reference to equestrian feats at fairs, by females, should happen to recollect what we have written on this subject in times past, they may fear, from so sudden a collision, a general devastation and breaking up of affairs. And surely, if the Plough should attack the Loom and the Anvil, or if the Loom should attempt to weave the Plough and the Anvil, *nolens volens*, into a web to suit its own fancy, the consequences might be dreadful even to think of. Nor would the Anvil, set in hostile array against his fellows, be likely to make a child's game of it. The "Harmony of Interests" has long been a favorite story with this office, and the mutual relations of the various industrial interests have been so developed as to prove to us that like some phenomena of the heavenly bodies, even apparent irregularities threatening dire calamities work themselves out safely, and tend to perfection in the final result. We can assure our readers that there is no

occasion for alarm. All the parts of our machinery in danger of such violent contact are well padded, and no harm can possibly result. And so long as each is assured that himself is the wiser on a point like that in issue, the *mens conscia recti* will afford each of us tolerable comfort, although all mankind do not exactly come up to the ideal standard. The world may be at ease on this matter.

Miscellaneous.

DIGNITY OF THE MERCANTILE PROFESSION.

"The merchants of the United States compose the true aristocracy of the country. Elsewhere there is always a class which, being recognized by society as a superior, can close its door in the face of a man engaged in mercantile pursuits. Here, however, the position of the merchant is admitted to be paramount. If his business be a respectable one, and if it is pursued fairly and honorably, he is not only entitled to claim admission to any class to which he aspires, but he is at once placed by social courtesy among the first.

"This is very proper, for upon him devolves the conduct of every measure intended to promote the public good; his judgment is consulted, and his liberality confidently relied on, whenever there is any movement of progress to be effected. As a general rule he is looked upon as a patron of science, literature, and the arts. Not only the Useful, but the Graceful and the Beautiful are the recipients of his bounty. He builds a railroad of a thousand miles—through mountains and over rivers—making the desert smile with plenty, and carrying comfort and luxury to the wilderness. He builds and endows a college for the sons and daughters of toil; or a chapel for the pious poor. His means are a bank, whereon the charitable and the needy, the deserving and the undeserving, the philosopher and the foundling, all alike draw at sight, and find their drafts promptly honored. The man of science solicits his judgment as to the practicability of his forthcoming invention; the artist craves his favor for his works; and the author looks to him for patronage. His time and his money are thought to be alike at the service of every adventurer, his advice and counsel are freely demanded, and in fine he is made the confidant, and frequently the servant, of the public. In view of all this, he surely merits the highest place which society can grant.

"Occupying, then, this desirable position, does it not become the young merchant to fit himself to adorn it? If so much power for good or evil is given to his position, should he not be fitted to discharge the trust which society reposes in him? '*Whatever is worth doing is worth doing well*,' is a truism which cannot be too often repeated. As much preparation is necessary in assuming the occupation of the merchant as in embracing any of the learned professions, though this preparation is of a different sort. An idea commonly prevails, among certain people, that nothing is requisite for success in trade but industry and attention. With these qualities a man *may* succeed, though they form but a small part of the essential qualifications of a merchant. There is scarcely any branch of knowledge which may not be advantageously used in the counting-house, and a liberal education tells as well on the merchant's cash-book as in the lawyer's brief."

The closing remark of this extract from *Hunt's Merchants' Magazine* is as applicable to the farm as to the counting-room. It is true that the knowledge most needed by the farmer is of a different kind. The merchant may better afford to dabble in what may be called the polite literature of the day; the very latest news is more important to him; and he needs more of that kind of polish which comes from being rubbed against the world. The farmer requires science rather than literature—a knowledge of nature, of her laws, of the material world, its dead matter and its living organisms, of the transmutations from the one to the other, how all the floating matter about him

is alternately dead and living, how the solid rocks become soil, how the soil becomes plants, how the plants become animals, how animals revert back to the elements of air, water and soil, ready to go again and again the same round of changes, and how he may guide these transformations for his own and the world's good.

Few men have said more good things than Mr. Hunt. We suppose that the merchants patronize him liberally. They certainly ought. Whether they are, as Mr. Hunt says, "the true aristocracy of the country" or not, certain it is that no man has done more than he to make them such. If they are the true aristocracy, he should be set down as the *nobilissimus nobilium;* as the leader to whatever is high-minded, noble, honorable, deserves the first place. His labored expositions of commercial law, his collected knowledge of the resources of commerce, the vast amount of statistical information he is continually putting forth, his earnest calls upon the young merchant to prepare, by a thorough training and large acquisitions of knowledge, for the high position he aspires to, his teachings that straightforward integrity is the merchant's jewel, that *honesty* is the best POLICY, an argument more effective perhaps with some than an appeal to better principles—all these make us reluctant to differ from him; and we are not sure that we do.

If by merchants, Mr. Hunt means only the Hancocks, the Laurenses, the Morrises, the Lawrences, and others, who, with liberal attainments in knowledge, which more than wealth makes the *man*, with wise calculation and strict integrity, have accumulated fortunes, and yet nobly served their country, honoring every draft that humanity could fairly bring against them, then we have no controversy with him. These *are* nature's noblemen. They have no need of a patent from earthly courts. Their title is from the King of heaven. We have many such, and we cheerfully give them a high place; but we want to put the farmer of Mount Vernon, the mechanic Ben Franklin, the inventor of the steam boat, and scores more of farmers, mechanics and inventors, dead and living, in the same category. We desire to honor the successful, upright, generous merchant in company with his equals of every useful calling. But if Mr. Hunt means by merchants all who live by buying and selling, and we know of no better definition, then the case is different. Great, honest, noble-hearted men will grow up in the profession, but scamps and Schuylers will grow up among them, in the very city where Mr. Hunt's teachings, sound and cogent as they are, most abound. Taking all who live by trading as merchants, there is not very much to brag of on the score of integrity. There is quite as much moral worth other where. Nor is it true that there is more intelligence in the aggregate among merchants than among others. The merchant acquires better the power of communicating thought. He can generally tell a little more than he knows; while the farmer and mechanic, less flippant, can hardly tell as much as they know; and this makes an essential difference with superficial observers. The former, we believe, are quite as intelligent as the latter, in the highest and best sense of the term—not as closely posted up to the moment, but somewhat better acquainted with the great past, and full as apt to draw useful lessons from it.

Let no one suppose that we think lightly of the merchant's calling. It is useful; it is necessary; a high civilization could not exist without it; and whatever changes may affect the world, it can never become unimportant. If the merchants do not become too numerous and too *keen* for the less trading classes, we wish them well. We are as much indebted to the merchant, who brings the article we want to the place where we want it, as we are to the mechanic who made it, or to the farmer who produced the raw material. Where our coat would have been, if the farmer had not given the wool, or if the mechanic had not manufactured it, or if the merchant had not placed it within our reach, is more than we know. Agriculture, mechanics and commerce are

sisters of kindred birth. Agriculture is the eldest; and on her the others lean. Mechanic art is next in age, and in conjunction with agriculture supports commerce. Commerce, if legitimately employed, does the behests of both, and yet is essential to the highest prosperity of both. Commerce, being the youngest of the three, sometimes waxes wanton, thrusts herself in where she is not wanted, sends her "between men" to work mischief between the producer and the consumer, speculates to the advantage of none but herself, and rather too often brags of being a little *smarter*—more clever our English cousins would say—than her elder sisters, all of which we must overlook for the real good she does. The idea underlaying Mr. Hunt's remarks, as quoted above, seems to be, that where there is no patent nobility, created by royal order, supported by the people, there will be a self-created and self-sustaining nobility. This is so; and under a free and well administered government, the nobility, in the latter case, will be more numerous than in the former, more influential, and quite as deserving of popular respect. Such a nobility we have in this country. They hold rank only during good behavior; and the tribunal before which they stand is not an easy one. Their children sometimes inherit their brains and their hearts with their estates, but not always; and in the one case there is much to be hoped from them, while in the other not much is to be feared. We fancy that the mercantile profession furnishes just about its fair proportion of them, but not more. On second thought, we *guess*, the *Merchants' Magazine* will agree with us here. But what constitutes a nobleman, where no patents royal have been issued? Who are our noblemen? We have not time to answer this question now. Hereafter we may amuse ourselves, and possibly interest our readers, in efforts to hunt them up; and we will only say now, that if we should find some of them, or think we find them, where they have not been suspected of being, it would not be strange.

THE PAID BILL.

A Ballad of Domestic Economy.

O fling not this receipt away,
  Given by one who trusted thee,
Mistakes will happen any day,
  However honest folks may be.
And sad it is, love, twice to pay;
So cast not that receipt away.

Ah, yes, if e'er in future hours,
  When we this bill have all forgot,
They send it in again—ye powers!
  And swear that we have paid it not—
How sweet to know, on such a day,
We've never cast receipts away!

Punch, in "Humorous Poetry" of the English Language.

Live for a Purpose.—The secret of all success in life, of all greatness, nay, of all happiness, is to live for a purpose. There are many persons always busy, who yet have no great object in view. They fritter away their energies on a hundred things, and never accomplish anything, because never giving their attention to only one thing. They are like butterflies, flit from spot to spot never gaining wealth; while the ant who keeps to a certain circuit around her hole, lays up stores for winter comfort. Such persons are doomed to be dissatisfied in the end, if they are not sooner; for they find in the race of life they had been passed by all who had a purpose. It is not only the positive drones, therefore, but the busy idle that make a blunder of life for the want of a purpose.

NEW CORN PLANTER.

THE accompanying engraving represents Fenwick and Boeklen's machine for planting and covering corn by hand, on which two patents have been secured, bearing dates respectively August 7th, 1855, and May 6th, 1856.

Fig. 1 is a central section, showing the planter in the condition it is before touching the ground. Fig. 2 is a section at right angles to fig. 1, showing the parts in the condition they assume when the seed plunger is forced into the ground. Fig. 3 is a similar section to fig. 1, showing the parts in the condition they assume as the seed tube is being lifted up to draw the seed plunger from the ground.

AGRICULTURAL FAIRS.

AGRICULTURAL FAIRS.—The fourth annual exhibition of the United States Agricultural Society will be held at Powelton, Philadelphia, on Tuesday, Wednesday, Thursday, Friday and Saturday, October 7th, 8th, 9th and 10th, 1856. Premiums are offered, varying from $25 to $200, amounting in the aggregate to $12,000. For premium list, application may be made to Wm. S. King, Secretary, Boston, or to John McGowen, Assistant Secretary, 160 Chestnut street, Philadelphia.

Alabama, at Montgomery,	Nov. 11, 12, 13, 14
American Institute, at the Crystal Palace, New-York,	Sept. 23 to Oct. 25
American Pomological Society, at Rochester,	Sept. 24
California, at San Jose,	Oct. 7, 8, 9, 10
Canada East, at Three Rivers,	Sept. 16, 17, 18
Canada West, at Kingston,	Sept. 23, 24, 25, 26
Connecticut, at New-Haven,	Oct. 7, 8, 9, 10
Georgia, at Atlanta,	Oct. 20, 22, 23
Illinois,	Sept. 30, & Oct. 1, 2, 3
Indiana, at Indianapolis,	Oct. 20, 21, 22, 23, 24, 25
Iowa, at Muscatine,	Oct. 8, 9, 10
Maine,	Oct. 28, 29, 30, 31
Michigan, at Detroit,	Sept. 30, & Oct. 1, 2, 3
New-Hampshire,	Oct. 8, 9, 10
New-Jersey, at Newark,	Sept. 10, 11, 12
New-York, at Watertown,	Sept. 30, & Oct. 1, 2, 3
North Carolina, at Raleigh,	Oct. 14, 15, 16, 17
Ohio, at Cleveland,	Sept. 23, 24, 25, 26
Pennsylvania, at Pittsburgh,	Sept. 30, & Oct. 1, 2, 3
South Carolina, at Columbia,	Nov. 11, 12, 13, 14
United States Agricultural Society, at Philadelphia,	Oct. 7, 8, 9, 10
Vermont, at Burlington,	Sept. 9, 10, 11, 12
Virginia, at Wheeling Island,	Sept. 17, 18, 19
Wisconsin, at Milwaukie,	Oct. 8, 9, 10

AMERICAN INSTITUTE FAIR.—The Twenty-eighth Annual Fair of the American Institute will be held at the Crystal Palace, beginning Sept. 22, and continuing till Oct. 25. New dies have been procured for the gold, silver, and bronze medals. The gold medal will be double the present size, and will be awarded only to the best machinery and other articles of high merit. The silver medal will also be enlarged. The bronze medal is a new feature. The new dies will be ready for exhibition during the fair. A list of premiums is announced for grain, flour, fruits, flowers, vegetables and dairy productions. Quack medicines to be expelled ignominiously, as last year.

CENTRAL POWER—EMIGRATION—AND AGRICULTURE OF WARREN CO., IOWA.

MESSRS. EDITORS:—No State in the Union has ever been settled up with such rapidity as this new and fertile State. Emigration is from every State within the boundaries of Uncle Sam's dominions, and from "sweet Ireland," with spade in hand. Many from John Bull's aristocratic power, both high and low, and finally from all parts of the civilized world, have found an asylum here upon the fertile soil of Central Power. No better soil for the oppressed and downtrodden, to obtain a livelihood by the "sweat of the brow," can be found.

Towns and villages are springing up in all parts, and are being peopled with energetic, business men. Thousands of acres of untilled prairies are being turned over for cultivation yearly. Where but a few years since the red men assembled in council, to sing the war song and dance the war dance, is now the thriving village or

the fine farm; and the plough and other farming implements are used to cultivate bread for its thousands of emigrants, which are flowing in daily from all portions of the world. Hardly a day passes but what we can see the emigrant's wagon settling within our midst. Why is this? Iowa, like all other States, has it advantages and disadvántages. Her soil is of the very best quality, composed of a black sandy loam, deep and durable, yet very light and easy to till. Central Iowa has the advantage of the Des Moines River, which is navigable to Fort Des Moines a portion of the year. This is a very beautiful stream, and not unhealthy. Its bottoms are the best of farming lands, with a heavy body of timber. Fort Des Moines, the future capital of this State, is located in the forks of the Des Moines and Coon River, and is a very thriving town, destined to be a large place. The timber is of a good quality, though rather scarce in some portions. Stone is also plenty, especially in Madison and Polk Counties. Coal abounds in Warren County, so that the facilities for agriculture cannot be beat in any other portion of the Union. There is an abundance of limestone both in Madison and Ware Counties. The inhabitants of Warren are principally employed in agriculture.

Although the farming is not altogether as it should be, yet we are improving every day—perhaps as fast as any other portion of the State of the same age. And well we may, for our soil cannot be surpassed. For raising cattle we have a fine country, but as a general thing, we have not the blood that we ought to have either in swine, cattle or sheep. Our first settlers were principally from Missouri, and have not that energy or enterprise that the people of the North have. Their swine were suffered to run at large, and fatten themselves from what they could gather from the timber, seldom, if ever, knowing what corn was, unless they broke into the field and took it by theft. So with their cattle and horses, especially of the young stock. I often wonder that men of capital do not go into improving their stock, also that Eastern capitalists do not emigrate here for that purpose. The expense of keeping is not near as much as at the East. Still we are improving some in this country, hoping that in a few years we will be up even with our sisters the Buckeye and Sucker States. Gentlemen, especially the young, you that have turned your attention to this branch of agriculture, come over and help yourselves and help us. Here is the place to get your money back in the cattle business. This country has the very best of pure water, both for man and beast, and a plenty of it. Our market is new, a home market; the emigration is so great that it consumes all that is raised at present. Wheat is worth $1 25 per bushel, corn 50 cents, oats 50 cents, other things in proportion. Land is cheap, but is rising very fast. Young men, why will you stay in the Eastern States with your little, and always live from hand to mouth? Come to the West, buy a small farm, and grow up with the country, and in a few years you can reverse that old saying, and live from mouth to hand. I know by sad experience that it is hard to leave a father's roof, where all is plenty, for a new country. We have fine schools, and growing better every day. The view of many that we are barbarians, is a false one. We have our district schools, high schools and our Sabbath schools. It is true that many portions of this State, like all other new States, are destitute of schools, but it will not be so long. We have at this time no railroads, but we shall have plenty of them in a few years. By the time that this State has one-half the age that Ohio has, she will be where Ohio is at present. All new countries have their own disadvantages. Fruit is rather scarce, but my opinion is that this portion of the State will be as good for fruit, such as apples, pears and plums, as any other State in the Union. Peaches I would not recommend; when the season is favorable we can raise the very best of them, but the winters are often severe, so that they are an uncertain crop. What I have seen of the apples that have been raised here are of the finest quality. I have never seen better in the Buckeye State, and there they think they cannot be beaten in fruit. I

have been in many of the Western States, Wisconsin, Michigan, Illinois, Indiana, and many of the Southern States, and I prefer this to any of them. If any of your readers wish for information, I will give it them through the *Plough, Loom and Anvil*, or by private letter. L. S. SPENCER.

NEWMAN'S MILLS, Indiana Co., Pa., July 8, 1856.

MESSRS. EDITORS:—The weather since my last has been variable. The season and crops are about one month later than usual. As a general thing there has been plenty of rain to answer all the purposes of the vegetable world; but the weather has been so changeable, now hot and now cold, that things have made but little progress. There would be a few days warm and pleasant, and things would begin to put out finely; when perhaps the wind would set sail towards the west, and shake the clouds over us, giving the earth and the things therein a good shower bath. Then it would shift around to the west or north-west, and blow so cold that one's toes and fingers would be quite comfortable near a good fire; and his back would relish the companionship of a good, warm coat; and vegetation would get so into the blues, as to look and feel like going back into winter quarters, or at least to look that way so intently, that the next warm spell would not much more than induce it to look and move ahead once more, when it would encounter another squall and another fit of the blues. The last week or two of May, the weather was very remarkable for changes. High winds and cold rains and frost were frequent. On the 30th of May, in the forenoon, it was so cold as to make one feel, especially in the regions of his toes and fingers, that winter was coming out in a new edition. In the afternoon of the same day it snowed, like fury, two or three times, so as to make the ground look white as winter, the wind and storm coming from the north-west, the direction of the great lakes. That night the wind lulled, the snow ceased, the clouds disappeared. But on the morning of the 31st, vegetation did not get off with the blues; it got as low as the blacks. The ground had quite a crust on it. All this year's growth of the grape-vines was killed back to the bud. The tomato plants and such like were nearly all killed. The leaves on the trees were so affected, that before night the air was so perfumed as to make one think of haying-time. Till that morning we had a fine prospect of a large crop of apples. But if you ask me how it is with the prospect since, why I will tell you, as I told a neighbor the other day—"I guess there wont be much sin committed about these 'diggings,' this year, in the line of fruit stealing."

As to wheat and rye, not much was sowed last fall, owing to the season being so wet, and last harvest so very abundant. What was sowed came up very thin; and the hard winter, the cold spring, and now the fly and the midge, or weevil, are not thickening it very much. The grass crop, I think, will not be very heavy. The oat crop looks quite promising at present. As to the corn crop, it is not promising. Nearly all the seed corn planted, like the Dutchman's, came up missing. Some planted over; others left their ground for buckwheat. So far as I know, not many potatoes were planted; but what were planted look very well at present. Owing to the poor prospects of the wheat and rye crops, and the uncertainty of what little corn is growing ever reaching maturity, I think there is sowed, and to be sowed, more buckwheat than is usual here, in order to secure one more chance for something to eat.

The ignorance or disregard of the laws of life and health, which prevail among our farmers, is much to be lamented. A man cannot be wise to devise, or strong to labor, who is not strong in health, both of body and mind. And no man can be strong in body and mind, who does not live in obedience to the laws of life and health. God bless the farmers, and make them wise, healthy and strong, prosperous and happy.

Yours truly, D. M.

Climatology.—The writer of the following, which we cut from the *Country Gentleman*, a paper from which we never borrow without commending, seems to have lived long in each of the climates of which he writes. He may be supposed to know whereof he affirms. We commend his conclusions to the curious. Of the climate of England, of the Atlantic States, and of the Pacific coast, he says:

1. In the first, a man is of ruddy complexion and full flesh; in the second, sallow and spare; in the third, about like the first. In the first, when in health, labor never *tires* him, and food and rest can be foregone for a while with considerable indifference; in the second, labor *tires*, and food and rest are found *necessary* at the usual times; in the third, it nearly resembles the first. In the first, he desires substantial food; in the second, knick-knacks; in the third an equal number of each.

2. Feminine beauty, in the first, consists mostly in a very soft and delicate skin and radiant color. In the second, a finely formed countenance, and finely proportioned, easy and graceful body. In the third, a union of the two, and therefore excelling both the others; and as Circassia is the apex of beauty in the old world, so is this destined to become in the new.

3. In the first, the prevalent diseases are generally of the chronical or lingering class, and appear to arise chiefly from the want of tenseness of fibre, and inaction of the secretions and excretions; they are mostly scurvy, scrofula, swellings, rheumatism, hypochondria, dropsy, flatulent cholic, gravel, consumption, and putrid fever. In the second, including the South so far as before mentioned, bilious fever, dysentery, flux, diabetes, dropsy, inflammations and congestions of the liver, lungs, and brain, and the "tarnal" ague. In the third, we claim almost an exemption from all the above, and it is hard to say if any disease prevails. In a locality or two, on the Williamette in Oregon, and Columbia river bottoms, the ague has prevailed to some extent, but elsewhere there appears to have been no prevailing sickness, with the exception of now and then coughs and colds. In the first, a man dies of slow and lingering sickness; in the second, of acute and violent disorders; in the third, by accident, violence, intemperance, or real old age.

5. In England, a working man is a *drudge*, but *his hours of labor are moderate;* in the States, *he toils through too many hours in a day;* in this country, *he merely does enough.*

6. In the first, a poor man continues such of *necessity;* in the second, through *sickness*; in the third, he *cannot remain so.*

7. In the first, he *never makes a start;* in the second, *starts easily;* in the third, *with privations.* The reason of the last is that the necessaries of life are high in price, and those who have wealth are too lazy to hire much for the sake of increasing it.

Facts Worth Considering, *in relation to British Husbandry*, from the *New-England Farmer.*—Warwickshire is the richest farming district in England. We at once see the chief cause of its great rural prosperity. The parts of the county which have hitherto fallen under our observation have been exclusively agricultural, with outlets and markets, no doubt, from their proximity to London; but the great stimulus of manufactures, within the counties themselves, has been entirely wanting. In Warwickshire, Birmingham, with its dependencies, a great manufacturing district, presents itself. The population of the county is one to the acre, and four-fifths of the population are engaged in manufacturing; whence it follows, that an acre is required to produce food sufficient for one person, and that a farmer, who brings his produce to market, finds four consumers to bid for it, and these consumers all in the receipt of high wages, which enable them to pay good prices. How is it possible that agriculture should not prosper, under such circumstances?

Staffordshire affords, probably, one of the most striking examples, in England, of the influence which the vicinity of manufactures exercises on agriculture. This county is not naturally fertile, and mountains, barren and wild, run through it. Owing to the extraordinary progress manufactures are every day making, the population of the county exceeds 600,000 upon an area of 730,000 acres. With such a mass of population the land must be stubborn indeed, which cannot be forced to produce. The potteries and iron foundries produce the immense wealth, which re-acts on agriculture. Large property predominates in Staffordshire, as in all counties not naturally fertile.

Averse as we are to the relation of landlord and tenant in the United States, one cannot but admire the confidence and kindly relation which exists between landlord and tenant, in England. From generation to generation tenants hold their lands in their own families under leases that run from year to year, and make great outlays on the lands, and generally refuse a longer lease, when offered to them.

In this county is Drayton Manor, a few years since the residence of Sir Robert Peel. When he carried the repeal of the corn-laws, he caused all his lands to be drained, at his own expense, upon condition that the tenants paid him four per cent. on the outlay, which terms they accepted; and then revised their rents, reducing all such as were not moderate enough, which were few, and offered his farmers long leases. These they refused, preferring the yearly tenantry, under which they had held their lands for generations, in their families. These estates of Sir Robert are the model of good management.

A Curious Fact.—We were very much interested yesterd aymorning in receiving a young brood of California quails, belonging to Mr. Geo. Dietz, which owe their existence to extraordinary conditions. Mr. Dietz had a pair of these birds, the female of which died about the 7th of April. On opening her, he discovered one full-sized and several partially developed eggs in her ovarium. The male appeared very disconsolate at the loss of his *cara sposa*, so much so that fears were entertained for his life. He gave vent to grief in various ways—refused to eat or be comforted in any manner. Suddenly he disappeared in a close box connected with the cage. Once in two or three days he would show himself for a few moments, and then retire to his solitary retreat. Ultimately he was no longer seen to emerge; and fearful that it was all over with the devoted widower, Mr. D. knocked off a board, and he introduced his hand in the box. The bird jumped out, much emaciated and almost lifeless. Still he would not eat. Yesterday morning, however, the mystery was explained. His birdship walked triumphantly out of the cage, precisely twenty-one days from the time that he first disappeared, introducing himself as the father of thirteen younglings, over whom he is now cooing with all the notes of the most experienced dame, and instructing them in the manners of his race. Long life to him and his progeny, after such an unusual assumption of maternal duty.

The eggs were of course laid by the female before her death. Yesterday the father of the brood, a very handsome bird, was brooding his half-orphans with all the apparent solicitude of a mother, spreading out his wings over them, clucking, and conducting himself as if determining that his little family should not feel the want of a mother's care.—*Chronicle.*

Is Religion Beautiful?—Always! In the child, in the maiden, the mother, religion shows with a holy, benignant beauty of its own, which nothing on earth can mar Never yet was the female character perfect without the steady faith of piety. Beauty, intellectual wealth! They are all like pitfalls, dark in the brightest day unless the divine light, unless religion throws her soft beams around them to purify and exalt, making twice glorious that which seemed all loveliness before.

Religion is very beautiful; in health or sickness, in wealth or poverty. We never enter the sick chamber of the good, but soft music seems to float on the air, and the burden of their song is, "Love, peace is here."

Could we look into thousands of families to-day, where discontent sits fighting sullenly with life, we should find the chief cause of unhappiness, want of religion.

And in felon's cells—in place of crime, misery, destitution, ignorance, we should behold in all its most horrible deformity, the fruits of irreligion.

Do Good.—Thousands of men breathe, move, and live—pass off the stage of life, and are heard of no more. Why? They do not a particle of good in the world, and none were blessed by them; none could point to them as an instrument of their redemption; not a word they spoke could be recalled, and so they perished; their light went out in darkness, and they were not remembered more than the insect of yesterday. Will you thus live and die, O man immortal! Live for something. Do good, and leave behind you a monument of virtue that the storm of time can never destroy. Write your name in kindness, love and mercy on the hearts of thousands you come

in contact with year by year. You will never be forgotten. No. Your name, your deeds will be as legible on the hearts you leave behind as the stars on the brow of the evening. Good deeds will shine as the stars of heaven.

WHERE TO GO.

The "Brewers" should to "Malta" go,
  The "Boobies" all to "Scilly;"
The "Quakers" to the "Friendly Isles,"
  The "Furriers" to "Chili."
The little snarling, carolling "babes"
  That break our nightly rest,
Should be packed off to "Baby-lon,"
  To "Lap-land," or to "Brest."
From "Spit"-head "Cooks" go o'er to "Greece,"
  And while the "Miser" waits
His passage to "Guinea" coast,
  "Spendthrifts" are in the "Straits."
"Spinsters" should to the "Needles" go,
  "Wine-bibbers" to "Burgundy,"
"Gourmands" should lunch at "Sandwich Isles,"
  "Wags" at the "Bay of Fun"-dy—
"Bachelors" flee to the "United States,"
  "Maids" to the "Isle of Man."
Let "Gard'ners" go to "Botany" Bay,
  And "Shoe-blacks" to "Japan."
Thus emigrate, and mis-placed men
  Will then no longer vex us,
And all who ain't provided for,
  Had better go to Texas.

Frauds in Artificial Manures.—To those unacquainted with the subject, the extent to which farmers are defrauded in the purchase of artificial manures is past all belief. Cautious John Bull has been victimized most cruelly. He has purchased Peruvian Guano that was half sand, superphosphate of lime that was little else than plaster and the useless refuse of chemical works, "Economical Manure" at eight pounds sterling per ton that was not worth as many shillings, "poudrette" that was half street scrapings and half coal ashes. In this country similar frauds have been practiced, and we have done our share in exposing the nefarious practices of these meanest of all scoundrels. As a general rule, farmers in this country are reading men, and, with one or two exceptions, the agricultural press is conducted by those who are willing to expose all such attempts to rob the farmer of his hard-earned money. Still, there is at the present time an extensive trade carried on in fraudulent manures.—*Ex.*

Sprouts around Trees.—Allow no suckers or sprouts to issue from the roots of your fruit trees; cut them all even with the surface and arrest every new development as soon as it appears. Every particle of new wood from this point diminishes the vital force of the system, without yielding anything valuable in return. Pear trees are more seriously injured by a neglect of this duty than other trees, as they are more delicate and less hardy.—*Germantown Telegraph.*

The Markets.—It could hardly be expected of the conductors of a monthly to keep its readers fully informed of the state of the markets. The infrequency of publication would of itself forbid. Our ambition is rather to furnish our readers with a monthly number—large, readable, *preservable*, filled mainly with matters of *permanent* value, such that they will afford a volume at the end of the year worth our subscription price. With this view, we have heretofore omitted the publication of prices current, supposing that our readers would get them sooner in their daily

and weekly papers than in ours; and we do not propose hereafter to publish anything like a full list of prices, because we believe we can occupy our space more advantageously to our readers. It is our purpose, however, after the present number to give a brief space to *a monthly review*, embracing, among other things, the state of the markets up to the hour of going to press, and accompanied by such suggestions as we suppose may be useful to our readers, regarding the disposition of their disposable products, etc.—Eds. P. L. & A.

This number of *The Plough, the Loom, and the Anvil* will be mailed, as our last was, to a few non-subscribers, with a view of giving them an opportunity to examine it; and we again invite the attention of gentlemen connected with Agricultural Societies to our offer of this publication for distribution in the way of premiums and gratuities. It will be furnished for such purposes at two dollars a year, and one-fourth of the money returned in agricultural books, to be added to the Society's library, or to be distributed as premiums. Will officers of Agricultural Societies let us hear from them?

Book Notices, Etc.

The Humorous Poetry of the English Language, from Chaucer to Saxe, by J. Parton. New-York: Mason Brothers. 1856. Pp. 689.

A somewhat distinguished clergyman, not far from here, has proved to delighted audiences that mirthfulness is conducive to health. We believe he has also proved—it certainly admits of proof—that it is usually associated with innocence, sincerity, freedom from dark, unhallowed purposes, from troublesome secrets that force self-loathing and weigh down the spirits. If our readers want to laugh, they would do well to buy "The Humorous Poetry of the English Language." Our risibles are none of the easiest, but it has made us laugh right healthfully, and we verily believe it will them. And then it will feed our national vanity—a hungry affair it must be confessed—for it shows that the wit of American humorists is quite as keen as that of the English, and that if Americans laugh less then Englishmen, they at least understand as well how to make others laugh.

"There is much nonsense in this book, and some folly, and a little ill-nature; but there is more wisdom than either; and they who possess it may congratulate themselves upon having the largest collection ever made of the sportive effusions of genius." So says the preface, and we confirm it.

Michigan State Agricultural Fair.—Premium List.—We have received this programme of the Michigan Fair for Sept. 30, and Oct. 1st, 2d, and 3d. The fair is to be held at Detroit. M. Shoemaker, of Jackson, is President, Benj. Follet, of Ypsilanti, Treasurer, and J. C. Holmes, of Detroit, Secretary. The amount to be distributed appears to be large; and the mode of distribution seems to be well chosen for the encouragement of all branches of industry, treating agriculture as its surpassing importance demands, and overlooking nothing on which the wealth, health and happiness of a State depends. We have not the least objection to the female equestrian part. On the other hand, we are glad that our Michigan friends have a silver cup for the best female rider, and another for the best female driver. We only wish the

cups were worth $20 each instead of $10. If we are to have a progeny worth perpetuating, our ladies must take more invigorating exercise than is usual among us. We would rather see farmers' wives and daughters turning the swath and raking after the cart, than see them pining for want of exhilarating exercise in the open air; but we would sooner see them riding on horseback to the tune of ten miles an hour. It is an elegant art. Nothing is more conducive to health. *Farmers* have no excuse for not training their sons and *daughters* to it. Is it true, that ladies somewhere down East were sneered at last year for showing themselves at a fair on horseback? If any gentleman—we mean anything in the shape of a gentleman—attempts the like at Detroit, let the Michiganders hiss him off the ground.

The senior editor, since writing the above, ascertains that his associate, while agreeing with him fully in the importance of our ladies taking more hearty, out-door, cheering exercise, would caution the ladies a little as to the time and place for exhibiting their feats of horsemanship, querying, (not deciding, but simply querying,) whether the State Fair is the best time and place. He would therefore *take the responsibility* of the foregoing from any shoulders where it does not belong, but would say to the ladies of Michigan, on his own account, go the innocent, health-giving amusement, by all means; and when you ride, he, if possible, will be there to see.

PROVINCIAL AGRICULTURAL ASSOCIATION'S PRIZE LIST, FOR THE ELEVENTH ANNUAL EXHIBITION, TO BE HELD AT KINGSTON, SEPT. 23 TO 26, 1856. OPEN TO ALL CANADA.

We see by the above that our neighbors over the line are going to distribute the *£. s.* and *d.* (why will they hang on so "like a dog to a root" to an awkward currency?) liberally for the encouragement of all branches of industry. Nothing, however, appears in their programme about female equestrianism. Perhaps they are a little prudish on that point. It would not be strange. Well, *chacun à son goût.* Success to our Michigan friends *with* their lady riders, and to our Canadian friends *without.*

Might not our State societies get a valuable hint from the following?—"A premium of £15 will be given for the best Report on each of the following counties, viz.: Addington, Haldimand, and Huron. If the successful Report be written by the Secretary of the County Agricultural Society, the premium will be increased to £20."

THE COMPLETE WORKS OF SHAKESPEARE. Martin & Johnson: New-York.

We have repeatedly described this elegant work. Two additional numbers are received, with an elegant engraving in each. It continues to merit all we have written of it. Being in quarto form, the entire series of numbers will form a very imposing volume. The publishers certainly deserve a very liberal patronage.

THE OLD CHEST AND ITS TREASURES. By Aunt ELIZABETH. New-York: published by M. W. Dodd, Brick Church Chapel.

The Old Chest and its Treasures is a neat little volume of 304 pages, made up of clippings from an old family chest, which, for a century or so, had been used as a receptacle of newspapers, magazines, pamphlets, etc., containing anecdotes supposed to be worthy of publication in a more permanent form. It is an effort to teach by example, and we should think would prove successful. The book is well adapted to Sabbath-school and family libraries.

NEW MUSIC, BY WM. HALL & SON.—Among the recent publications of this distinguished house, we note the following:

Deux Morceaux de Salon Schottish, pour le piano, par Herman A. Wollenhaupt, Nos. 1 & 2; very fine, and not excessively difficult. Camille Mazurka, as played at the New-Orleans Gaiety Theatre; composed and arranged for the pianoforte by

Robert Stöpel; more simple, and very good. "Everything Speaks to Me," poetry by Mrs. L. A. Augier, and music by John Perry; a simple and sweet air. "Kate Strang," Scotch ballad, words by W. W. Fosdick, composed by W. Vincent Wallace; very beautiful, and not difficult. The Fremont Rallying Song, adapted to the French national hymn, La Marseillaise.

BIBLIOTHECA SACRA and American Repository for July is laid on our table. It is a rich number. We have read with great interest the articles entitled "The Theology of Dr. Chalmers," "The Scriptural Authority and Obligations of the Sabbath," "The Imprecatory Psalms," and "Science and the Bible." The other contents are no doubt equally able. Dr. Cheever's Discussion of Slavery, "Plutarch on the Delay of Providence in punishing the Wicked," and several short items complete the contents. Published at Andover, Mass., by S. Draper.

PREMIUM LIST FOR THE FOURTH ANNUAL FAIR OF THE ILLINOIS STATE AGRICULTURAL SOCIETY, TO BE HELD AT ALTON, SEPT. 30 TO OCT. 3, 1856.

Over $7,000 to be distributed in premiums. All branches of industry adapted to that State to take a portion. That is right; for if the mechanic wants the farmer to feed him, the farmer needs the mechanic to make his implements and to buy his surplus produce, and without such a market he might about as well not grow it. The nearer the Plough, the Loom, and the Anvil are brought to each other, the better for all parties. If they are not within speaking distance, the "between man" thrusts in, and the consequence is that the consumer of farm produce pays twice as much as the producer gets. The manner in which the Illinosians propose to arrange their grounds is worthy of all commendation. We find no programme for female equestrianism. But we see there is to be a Floral Hall, to be managed by the ladies, *of course;* and here is a field where they may exhibit feminine taste and skill, without arousing the fastidium of even the dryest old bachelor.

THE FARM JOURNAL.—The first number of a journal bearing this name, published at Louisville, Ky., as the organ of the Kentucky State Society, promises well, and we have no doubt will fulfil as well. It is in the quarto form, on good paper, bright and readable.

List of Patents.

FROM TERMINATION OF PREVIOUS LIST TO JUNE 3.

William W. Batchelder, of New-York, N. Y., for improvement in hand-pegging machines.

William Baxter, of Newark, N. J., for improved hydro steam engine.

Charles K. Bradford, of Lynn, Mass., for improvement in harness trace coupling.

Samuel W. Brown, of Lowell, Mass., for improvement in steam pressure guages.

John Broughton, of Chicago, Ill., for improvement in rotary pumps.

Jonathan Burdge, of Cincinnati, O., for improvement in cutting flour mill.

Jeremiah Carhart, of New-York, N. Y. for improved machine for manufacturing reed boards for melodeons.

John M. Carlisle, of Williamson Springs, S. C., for improved method of operating head blocks of saw mills.

James Chattaway, of the county of Hamden, Mass., for improved water-proof percussion caps.

Hiram Collins, of Salisbury, Mass., for improved shutter operator.

Daniel Cushing, of Wheeling, Va., for machine for coating cloth with paint.

Daniel Cushing, of Wheeling, Va., for machine for rubbing and polishing painted cloth.

Austin G. Day, of Seymour, Conn., for improvement in cleaning india rubber.

J. C. Dickinson and Robert Bate, of Hudson, Mich., for improved pocket-book.

Henry C. Dole, of Adrian, Mich., for improved shears for sheet metal.

Robert B. Gorsuch, of New-York, N. Y., for improved method of effecting uniform pressure upon the pumping piston of double acting steam pumps.

John H. Gould, of New-York, N. Y., for improvement in three-wheeled carriages for children.

Henry Gross, of the county of Seneca, Ohio, for improved breech-loading fire-arm.

William Hart, of Maysville, Wis., for improved tool for watchmakers.

William Holmes, of Brooklyn, N. Y., for improvement in thrashing machines.

William W. Hubbell, of Philadelphia, Pa., for improved sabot for rotating shot or shell.

William Huntress, of South Berwick, Me., for improvement in bedsteads.

James Ives, of Mount Carmel, Conn., for improved mode of attaching pads to saddle trees.

Joseph Kurtzeman, of Lancaster, Ohio, for improved method of operating headblocks of sawing mills.

A. S. Macomber, of Bennington, Vt., for improvement in wheelwrights' machinery.

Patrick McGlew, of Waterford, N. Y., for improved die stock for cutting screws.

Jason Palmiter, of Jamestown, N. Y., for improved rotary shingle machine.

M. L. Parry, of Galveston, Texas, for improved method of repairing circular saw teeth.

Joseph Parisette, of Indianapolis, Ind., for improvement in ice-cream freezers.

J. C. Pluche and L. C. Pluche, of Cape Vincent, N. Y., for improvement in attaching teeth to sickle bars of harvesters.

Rufus Porter, of Washington, D. C., for mode of sounding whistles for fog signals.

James Reynolds, of New-York, N. Y., for improvement in mandrels, for making gutta percha tubing.

James Reynolds, of New-York, N. Y., for improvement in feed apparatus for working gutta percha.

Charles E. Russell, of St. Louis, Mo., for improvement in hermetically sealed preserve cans.

David Russell, of Lockport, N. Y., for improved method of applying horse power in fire engines.

William Mont Storm, of New-York, N. Y., for improvement in safes for ships and other vessels.

J. B. Ferry, of Hartford, Conn., for improved machine for sticking pins.

William R. Thomson, of Cleveland, Ohio, for improvement in constructing railroad car wheels.

Edward A. Tuttle, of Williamsburgh, N. Y., for improvement in registers and ventilators.

Philip Warner, of Lancaster, Pa., for improved bolt for shutters.

Marshal Wheelar, of Honesdale, Pa., for improvement in governor for steam engines.

George W. N. Yost, of Pittsburg, Pa., for improvement in reaping and mowing machines.

Reuben W. Benedict, of Brant, N. Y., for improvement in carriages.

George Blanchard, of New-York, N. Y., for improved apparatus for cutting the strings that secure the corks in bottles.

Charles E. Flagg, of Sherburne, Mass., for improvement in platform supporters.

Amos L. Grinnell and John Z. Williams, of Willet, Wis., for improvement in potato diggers.

Plymon B. Green, of Chicago, Ill., and Edward A. Kennedy, of Newark, Ill., for improvement in seed planters.

Daniel Judd, of Hinsdale, N. Y., for improved rotary excator.

Geo. B. Kaighn, of Lamberton, N. J., for improvement in the mode of attaching horses to shafts of vehicles.

C. O. Luce, of Freeport, Ill., for improvement in seeding machines.

Ebenezer Morrison, of Franklin, N. H., for improvement in corn shellers.

George A. Meacham, of New-York, N. Y., for improvement in seed planters.

H. C. Robertson, of Greenville, Tenn., for improvement in machines for stuffing horse collars.

Lucien H. Allen, of Tamaqua, Pa., assignor to himself and Edmnnd M. Ivens, of Tamaqua aforesaid, for improvement in casting car wheels.

Alexander Hall, of New-York, N. Y., assignor to himself and James G. Caldwell, of New-York, aforesaid, for improvement in repeating fire-arms.

John J. Howe and Truman Piper, of Derby, Conn., assignors to the Howe Manufacturing Company of Derby, aforesaid, for improvement in japanning pins.

John J. Howe and Truman Piper, of Derby, Conn., assigners to the Howe Manufacturing Company, of Derby, Conn., for improved machine for sticking pins.

Joshua K. Ingalls, of Brooklyn, N. Y., assignor to Mathias H. Howell, of New-York, N. Y., for improvement in metal beams.

George Atkins, of Pittsburg, Pa., for improvement in hand corn planters.

Cyrus Avery, of Tunkhannock, Pa., for marble sawing machine.

Alfred Belchambers, of Ripley, Ohio, for improvement in machines for thrashing and winnowing grain.

M. F. Bonzano, of New-Orleans, La., for improvement in machines for counting coin.

Nathan Brand, of Leonardsville, N. Y., for improved machine for bending hay forks.

Lebbeus Brooks, of Great Falls, N. H., for improved saw set.

Robert Cornelius, of Philadelphia, Pa., for improvement in safety valves.

Charles F. Crocker, of Newark, N. J., for improvement in making sheets from curriers' shavings or "buffings."

Charles N. Clow, of Port Byron, N. Y., for improvement in differential governor for marine and other engines.

James Emerson, of Worcester, Mass., for improvement in ships' capstans and windlasses.

Michael Erb and F. C. Griffin, of Newark, N. J., for improvement in locks.

J. B. Fayette and D. Wheeler, of Oswego, N. Y., for improvement in strapping tackle blocks.

John U. Fiester, of Winchester, Ohio, for improved carriage springs.

R. Gleason, jr., of Dorchester, Mass., for improvement in silver plate cake and fruit baskets.

Henry W. Goodrich, of Boston, Mass., for improvement in molasses pitchers.

Valentine Houck, of Buffalo, N. Y., for improvement in certain devices in planing machines.

George Hutton, of New-York, N. Y., for improved mechanism for adjusting circular saws obliquely to their arlors.

Henry S. Houghton, of Blackstone, Mass., for improvement in brushes for cleaning travellers.

Samuel Hickok, of Buffalo, N. Y., for improvement in refrigerators.

Horatio Keyed, of Leominster, Mass., for improvement in machines for paring apples.

John C. King, of Belvidere, N. J., for improved valve for double acting pumps.

Lewis Kirk, of Reading, Pa., for improvement in brick presses.

Christian Knauer, of Birmingham, Pa., assignor to Warwick, Attleburg & Co., of Pittsburg, Pa., for improved door lock.

N. S. Lockwood, and J. D. Wines, of Dayton, Ala., for improvement in ploughs.

L. J. Smallwood, and William S. Baker, of Riceboro', Ga., for improvement in feeders for roller cotton gins.

Samuel Mallet and Augustus B. Smith, of New-Haven, Conn., for improvement in adjustable punches for setting artificial teeth.

Joseph Lloyd Martin, of Baltimore, Md., for improvement in odometers and counting machines.

Edward Maynard, of Washington, D. C., for improvement in cartridges.

David McComb, of Memphis, Tenn., for improvement in non-elastic bands for bales of cotton and other fibrous materials.

Oscar F. Morrill, of Boston, Mass., for improvement in smoothing irons.

Thos. Sedgcock, of the county of Surrey, England, for improvement in reflecting quadrants. Patented in England March 30, 1855.

John T. Noye, of Buffalo, N. Y., for improvement in clutch for flour packer.

J. C. Pluche and J. L. Pluche, of Cape Vincent, N. Y., for improvement in harvesters.

N. C. Sanford, of Meriden, Conn., for improvement in auger handles.

John D. Seagrave, of Worcester, Mass., for improvement in machines for paring apples.

James Shaw, of Providence, R. I., for improved portfolio.

Garrett J. Olendorf, of Middlefield, N. Y., for improvement in revolving harrows.

William S. Tilton, of Boston, Mass., for improvement in corn harvester.

John Tear, of Chicago, Ill., for improved method of operating cutters in their heads for irregular forms.

Joseph Thomas, of Brooklyn, N. Y., for improvement in machines for sizing hat bodies.

Jesse D. Wheelack, of Mayville, Wis., for improvement in coal heating bakers.

Edward Whiteley, of Boston, Mass., for improvement in water heaters surrounding fire pots of cooking apparatus.

Israel P. Williams, of Salem, Mass,, for improvement in pre-tanning compositions.

George F. Wilson and George Payne, of Belmont, Vauxhall, England, for improvement in saponifying fats.

Wm. Bertram, of Woolwich, England, assignor to John W. Cochran, of New-York, N. Y., for improvement in welding iron plates. Patented in England Dec. 21, 1854.

Cornelius Aultman and Lewis Miller, of Canton, O., assignor to Ball, Aultman & Co., of Canton aforesaid, for improvement in mowing machines.

Horace Vaughn, of Providence, R. I., for improvement in compositions for working steel.

Asa Arnold, Washington, D. C., improved self-raking saw.

A. Ely Beach, Stratford, Conn., improvement in printing instruments for the blind.

Leander W. Boynton, Worcester, Mass,, improvement in smoothing irons.

R. W. Bowen, Marshall, Mo., improvement in hemp-breakers.

Fordyce Beals, New-Haven, Conn., improvement in fire-arms.

Julius Cone, Yellow Springs, Ohio, improvement in alarm lock.

Wm. Cox, Doylestown, Pa., method of securing shafts to axles,

H. B. Chaffee, New-York city, improved vise.

Wm. Croasdale, Hartsville, Pa., for lime and guano spreaders.

S. E. and H. B. Cleaveland, Buffalo, N. Y., improvement in locomotive lamps.

S. D. Carpenter, Madison, Wis., improvement in rotary pumps.

Owen Dorsey, Triadelphia, Md., improved reaper.

W. M. Davis, Carmel, Me., improved water wheel.

I. A. Dunham, North Bridgewater, Mass., improvement in edge planes.

E. Espenchade, Williamsport, Pa., method of cooling and drawing fluids from casks.

George C. Ehrsam, New-York city, improved saw for felling trees.

F. M. English, Hopkinsville, Ky., method of detaching horses from vehicles.

David Hinman, Berea, Ohio, improvement in hanging grind-stones.

H. J. and Thos. Hawkins, Mobile, Ala., improvement in steam cut-offs.

George Hall, Morgantown, Va., improvement in seed planters.

C. R. Iliff, Falmouth, Ky., improvement in plotting instruments.

G. A. Jenks, Worcester, Mass., improved wrench for gas pipe.

R. T. Knight, Philadelphia, Pa., improved method of making envelopes.

Daniel Large, Philadelphia, Pa., improvement in iceboats.

B. F. Lyon, Pleasantville, Pa., for portable field fence.

Richard Murdoch, Baltimore, improvement in running gear for carriages.

John Mooney, Providence, R. I., improved tool for cutting metals.

H. E. Salisbury, Platea, Pa., improved method of turning tapering forms.

Henry Phelps, White Hall, N, C., improved running gear of vehicles.

Franklin Peal, Philadelphia, Pa., improved tubular elastic valves.

Francis Peabody, Salem, Mass., improved method of operating wind wheels.

S. G. Randall, Rockford, Ill., improved hand-seeding machine.

C. R. Soule, Fairfield, Vt., improved machine for making rake teeth.

C. F. Schlickeysen, Berlin, Prussia, improvement in pug mill. Patented in England, Feb. 24, 1856.

Nicholas Linden, Jersey City, N. J., improved fountain lamp.

V. R. Stewart, Westport, N. Y., improvement in washing machines.

John Taggart, Roxbury, Mass., improvement in tidal alarm buoy.

W. H. Thompson and E. P. Morgan, Biddleford, Me., improvement in car safety hatches.

Wm. Wright, Hartford, Conn., improvement in cut-off valves.

C. B. Wagner, Philadelphia, Pa., improvement in harvesters.

James Warner, Springfield, Mass., improvement in fire-arms.

Walter A. Wood, Hoosick Falls, N. Y., for dividing shoe for mowing machines.

C. B. Wagner, Philadelphia, Pa., improved apparatus for harvesters.

S. E. Winslow, Philadelphia, Pa., improvement in fluid cans.

Wm. Wright, Hartford, Conn., improvement in cut-off valves.

Alvah Foote, Blandford, Mass., assignor to himself, Ira Russell, Dedham, Mass., and A. B. R. Sprague and Henry Phelps, Worcester, Mass., improvement in spring bottoms.

Abraham Fravel, (assignor to himself and T. D. Lemon,) La Porte, improved grain drills.

Remy Henry, Melrose, N. Y., assignor to James Smith, New-York city, method of operating steam valves.

John H. Phillips, (assignor to Leigh R. Holmean,) Washington, D. C., for shield to protect breast pins.

George Taylor, Richmond, Ind., assignor to Harrison Ogborn and George W. Stigleman, Wayne county, Ind., improved farm gate.

Lucius J. Knowles, Warren, Mass., improvement in looms.

Wm. A. Ashe, of New-York, N. Y., for improved mode of securing tire on wheels.

Hazen J. Batchelder, of West Fairlee, Vt., for improvement in dental forceps.

David Bowen, of Wadesville, Va., for improved machine for sawing felloes.

D. Franklin Breed, of Fulton, N. Y., for improved brake wagons.

Jeremiah Carhart, of New-York, N. Y., for improvement in melodeons.

Henry A Chapin, of Springfield, Mass., for improved machine for reaming and tapping gas fittings.

E. S. Clapp, of Montague, Mass., for improved method of framing and straining wood-saws.

Charles N. Clow, of Port Byron, N. Y., for improvement in rotary pumps.

Wm. T. Clough, of Newark, N. J., for improvement in concentrating apparatus for sulphuric acid.

Alphonso Crayteg, of Brooklyn, N. Y., for approved metallic pen.

Cook Darling, of Utica, N. Y., for improvement in machines for cutting and paring apples.

Peter S. Ebbert, of Chicago, Ill., for improvement in the base piece of locomotive smoke stacks.

Samuel B. Fay, of New-York, N. Y., for metallic hook for labels.

Robert H. Fletcher, of Brooklyn, N. Y., for improved method of operating valves of steam pumps.

Arasmus French and Charles Frost, of Waterbury, Conn., for improved method of making boxes of paper pulp.

William S. Gale, of New-York, N. Y., for improvement in steam pressure regulators.

John Grason, of Queenstown, Md., for improved machine for sawing stone.

Franklin H. Hall, of Philadelphia, Pa., for improvement in refrigerating pitchers.

John L. Harvey and C. A. Mills, of Dubuque, Iowa, for improved paper clip.

John Hennon, of Brighton, Pa., for improved method of turning carriage, etc., axle-trees.

M. G. Hubbard, of Penn Yan, N. Y., for improved mode of adjusting carriage springs.

Silas Huddleston, of Cottage Grove, Ind., for improvement in bedsteads.

John C. Heuermann, and Jonathan Reeves of Camden, N. J., for improvement in harvesters.

John C. Hicks, of Rockaway, N. Y., for improvement in raking attachments for reapers.

Lawrence Holmes, of Patterson, N. J., for improved match machine.

Henry Isham, of New Britain, Conn., for improvement in locks.

B. F. Joslyn, of Worcester, Mass., for improvement in breech-loading fire-arms.

Cyrus Kenney and Wm. Gurley, of Troy, N. Y., for improved machine for grinding butt hinges.

Henry Lawrence, of New-York, N. Y., for improved marble sawing machine.

Andrew Lanergan, of Boston, Mass., for improvement in disinfecting pastiles.

John Laurens, of Charleston, S. C., for improved gun carriage.

John C. McMullen, of Baltimore, Md., for improvement in netting machines.

W. K. Miller, of Canton, O., for improvement in steam guages.

O. W. Minard, of Waterbury, Conn., for improved brass kettle machine.

Oren Moses, of Malone, N. Y., for improved machine for mincing meat.

Ansel Moon, of Bristol, Wis., for bedsteads.

M. Painter and C. Painter, of Owings Mills, Md., for improvement in swinging spout for feeding mill stones.

Geo. P. Reed, of Waltham, Mass., for improvement in independent seconds movement for watches.

John Reily, of Heart Prairie, Wis., for improvement in reaping and mowing machines.

D. H. Richards, of Georgetown, Mass., for machine for sweeping streets.

Socrates M. Ridgaway, of St. Michael's, Md., for improvement in machines for making and kneading dough.

Cyrus Roberts, of Bellville, Ill., for improvement in corn and cob mill.

Daniel Robinson, of Lenoxville, Pa., for improved balance gate for flumes in water power.

William Silver, jr., of Wapwoliopen, Pa., for improvement in blasting powder.

James Stephens, of New-York, N. Y., for improvement in curtain fixtures.

Wm. Mt. Storm, of New-York, N. Y., for improvement in steam pressure indicators and regulators.

J. A. Stewart, of Franklin, Ky., for improvement in cotton and seed planters.

Joseph Thomas, of Brooklyn, N. Y., for improvement in machinery for felting hat bodies.

James N. Ward of the United States army, for improved magazine hammer for fire-arms.

James H. Wright, of New-York, N. Y., for improved filter attachment for faucets.

Walter A. Wood, of Hoosick Falls, N. Y., for improved guard finger for harvesters.

Anson S. Hathaway, of Columbia, Me., assignor to himself and Frederick Ruggles, of same place, for improvement fn machine for mowing grass and cutting grain.

Albert L. Lincoln, of Boston, Mass., assignor to himself and Chas. Foss, of same place, for macaroni server.

Chas. Werner, of New-York, N. Y., and Chas. Dentschman, of Buffalo, N. Y., for improvement in dry lime gas purifyers.

William H. Walton, of Brooklyn, N. Y., assignor to himself and J. E. Winants, of same place, for improved machinery for combing wool.

Oliver D. Stephens, of Cleveland, O., for improvement in machines for hulling and scouring grain, seed, etc.